STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SANTA ANA REGION

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TENTATIVE ORDER NO. R8-2009-0036
NPDES NO. CAS618036

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR THE SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT, THE COUNTY OF SAN BERNARDINO, AND THE INCORPORATED CITIES OF SAN BERNARDINO COUNTY WITHIN THE SANTA ANA REGION

AREA-WIDE URBAN STORM WATER RUNOFF MANAGEMENT PROGRAM

The following Dischargers (Table 1) are subject to waste discharge requirements as set forth in this Order:

Table 1. Municipal Permittees

Principal Permittee	San Bernardino County Flood Control District (SBCFCD)	
Co-Permittees	1. County of San Bernardino	9. City of Loma Linda
	2. City of Big Bear Lake	10. City of Montclair
	3. City of Chino	11. City of Ontario
	4. City of Chino Hills	12. City of Rancho Cucamonga
	5. City of Colton	13. City of Redlands
	6. City of Fontana	14. City of Rialto
	7. City of Grand Terrace	15. City of San Bernardino
	8. City of Highland	16. City of Upland
		17. City of Yucaipa

The Principal Permittee and the Co-Permittees are collectively referred to as the Permittees or the Dischargers.

Table 2. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**XXXX, 2009**
This Order shall become effective on:	**XXXX, 2009**
This Order shall expire on:	**XXXX, 2014**
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than 180 days in advance of the Order expiration date.	

IT IS HEREBY ORDERED, that this Order supersedes Order No. R8-2002-012, except for enforcement purposes, and in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Dischargers shall comply with the requirements in this Order.

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I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on XXXX, 2009.

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Gerard J. Thibeault, Executive Officer

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I. FACILITY INFORMATION

A. Each of the Permittees listed in Table 1, above, owns and/or operates storm water and urban runoff conveyance systems, including flood control facilities. These conveyance systems are commonly referred to as municipal separate storm sewer systems (MS4s[1]) or storm drains, through which storm water and urban runoff are discharged into waters of the United States (waters of the U.S.) that are located within the Santa Ana Region. Some of the natural channels, streambeds and other drainage facilities that are generally considered as waters of the U.S. have been converted to flood control facilities. In such cases, where a natural streambed is modified to convey storm water flows, the conveyance system becomes both an MS4 and a water of the U.S. The primary purpose for which these MS4s were constructed was for flood control to minimize threat to public safety and property damage. The MS4s are categorized as follows: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) an MS4 which contributes to a violation of a water quality standard; (3) an MS4 which is a significant contributor of pollutants to waters of the United States; or (4) an MS4 owned and/or operated by a small municipality that is interrelated to a medium or large municipality. Urban Runoff from these MS4 systems must be regulated under a National Pollutant Discharge Elimination System (NPDES) permit as per Section 402(p) of the federal Clean Water Act (CWA).

B. This Order regulates the discharge of pollutants (as defined in Attachment 4, Glossary) in Urban Runoff from anthropogenic (generated from non-agricultural human activities) sources from MS4s that are either under the jurisdiction of the Permittees and/or where Permittees have MS4 maintenance responsibility or have authority to approve modifications of the MS4s. Urban Runoff includes those discharges from residential, commercial, industrial and construction areas within the permitted area and excludes discharges from feedlots, dairies, and farms or other agricultural activities. The Permittees have jurisdiction over and/or maintenance responsibility for storm water conveyance systems within San Bernardino County. The Permittees lack legal jurisdiction over storm water discharges into their systems from State and federal facilities, e.g., schools and hospitals, utilities and special districts, Native American tribal lands, wastewater management agencies and other point and non-point source discharges otherwise permitted by the Regional Board. The Regional Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges.

C. Certain activities that generate pollutants present in storm water runoff may be beyond the ability of Permittees to prevent or eliminate. Examples of these include, but are not limited to: emissions from internal combustion engines, brake pad and tire wear, atmospheric deposition, bacteria from wildlife (including feral dogs and cats) or from bacterial resuscitation or reactivation from treated waters or growth of bacteria in the environment (such as in sediments, surface water, or other substrate), and leaching of naturally occurring nutrients and minerals from local soils. This Order is not intended to address background or naturally occurring pollutants or flows.

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[1] A MS4 (municipal separate storm sewer system) system is any conveyance or a system of conveyances designed to collect and transport storm water which is not part of a Publicly Owned Treatment Works (i.e., not a combined sewer).

D. The Permittees serve a population of approximately 1.5 million[2] (75% of the County population), occupying an area of approximately 620 square miles[3]. The permitted area is shown on Attachment 1.

E. The Permittees' MS4 systems include an estimated 378 miles of above-ground channels and 485 miles of underground storm drain channels, for a total of 863 miles within the permitted area. Approximately seven percent (7%) of the San Bernardino County area drains into water bodies within this Regional Board's jurisdiction. This Order regulates urban and storm water runoff from areas within the Santa Ana Regional Board's jurisdiction. Approximately 50% of the remaining San Bernardino County drainage areas are within the jurisdiction of the Lahontan Regional Board. Urban and storm water runoff from those areas is regulated by the Lahontan Regional Board. The other 43% is within the jurisdiction of the Colorado River Basin Regional Board. The Colorado River Basin Regional Board regulates urban and storm water runoff from those areas. However, most of the urbanized areas of San Bernardino County are located within the Santa Ana Regional Board's jurisdiction.

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II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter the Regional Board) finds that:

A. **Background**

1. The Co-Permittees own and operate flood control facilities. Some of the natural channels, streambeds and other drainage facilities that are generally considered as Waters of the U.S. have been converted to flood control facilities. In such cases, where a natural streambed is modified to convey storm water flows, the conveyance system becomes both a MS4 and a Water of the U. S.

2. The discharge of Urban Runoff from the San Bernardino County areas within the Santa Ana River Watershed are currently regulated under Order No. R8-2002-0012, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS 618036. Order No. R8-2002-0012 expired on April 27, 2007 and was administratively extended in accordance with Title 23, Division 3, Chapter 9, §2235.4 of the California Code of Regulations.

3. The Permittees jointly submitted a Report of Waste Discharge (ROWD) on October 26, 2006, as application to renew their NPDES permit. To effectively carry out the requirements of this Order, the Permittees have agreed that the San Bernardino County Flood Control District (SBCFCD) will continue as the Principal Permittee and the County and the 16 incorporated cities will continue as the Co-Permittees.

4. The ROWD proposed revisions to the Municipal Storm Water Management Plan (MSWMP) that includes performance commitments for each program element, letters of intent from each of the eighteen Permittees listed in Table 1, and proposed

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[2] Per 2006 Report of Waste Discharge (ROWD).
[3] Per ROWD.

activities to be conducted during the fourth term permit. The MSWMP incorporated a number of other documents by reference. The ROWD, the letters of intent, the MSWMP and the documents referenced therein are hereby made enforceable elements of this Order. The ROWD included: (a) a summary of accomplishments; (2) discharge characterization; (3) program effectiveness analysis; and (4) recommendations for program improvements.

5. This Order, Order No. R8-2009-0036 (hereinafter the Order or the Permit), renews NPDES Permit No. CAS618036 that was first issued on October 19, 1990 (Order No. 90-136, first term permit) and renewed on March 8, 1996 (Order No. 96-32, second term permit) and October 25, 2002 (Order No. R8-2002-0012, third term permit). Order No. R8-2009-0036 is the fourth term permit. The Permit outlines additional steps for an effective, risk-based, storm water management program and specifies requirements to meet applicable water quality standards. This Order requires the Permittees to investigate sources of pollutants in storm water runoff where activities that the Permittees conduct, approve, regulate or authorize through their licensing and permitting processes, have a reasonable potential to exceed water quality standards.

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B. **Regulatory Basis/Legal Authorities**

1. This Order is issued pursuant to CWA Section 402(p) (USC §1342(p)) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) as codified in Code of Federal Regulations, Title 40, Parts 122, 123, and 124 (40 CFR 122, 123 & 124); the Porter Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000); all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (State Board); the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan); the California Toxics Rule (CTR); and the California Toxics Rule Implementation Plan. The Basin Plan also incorporates all state water quality control plans and policies. This Order also serves as Waste Discharge requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260).
2. This Order is consistent with the following precedential Orders adopted by the State Water Resources Control Board (State Board) addressing municipal storm water NPDES permits: Order 99-05-DWQ (Petition of Environmental Health Coalition/Receiving Water Limitation Language for Municipal Storm Water Permits); Order WQ-2000-11 (Petitions of Bellflower, City of Arcadia, Western States Petroleum Association/Review of RWQCB and Its Executive Officer Pursuant to Order 96-054, Permit for Municipal Storm Water and Urban Run-Off Discharges within Los Angeles County); Order WQ 2001-15 (In the Matter of the Petitions of Building Industry Association of San Diego County and Western States Petroleum Association); and Order WQO 2002-0014 (Petitions of Aliso Viejo, et al/Order to stay provision F.5.f of the permit and part of last sentence of Finding 26 (permit issued by San Diego Regional Board).

3. The requirements contained in this Order are deemed necessary to protect water quality standards[4] of the receiving waters and to implement the plans and policies described in Finding B.1, above. These plans and policies contain numeric and narrative water quality standards for the waterbodies in this Region. In accordance with Section 402(p)(2)(B)(iii) of the CWA and its implementing regulations (40 CFR Parts 122, 123, & 124), this Order requires the Permittees to develop and implement programs and policies necessary to reduce the discharge of pollutants in Urban Runoff to waters of the U.S. to the maximum extent practicable (MEP)[5]. The legislative history and the preamble to the federal storm water regulations (40 CFR Parts 122, 123 and 124) indicate that Congress and the USEPA were aware of the difficulties in regulating Urban Runoff solely through traditional end-of-pipe treatment. Consistent with the CWA, it is the Regional Board's intent that this Order require the implementation of best management practices (BMPs)[6] to reduce, consistent with the MEP standard, the discharge of pollutants in urban storm water from the MS4s in order to support attainment of water quality standards.

4. On June 17, 1999, the State Board adopted Water Quality Order No. 99-05. This is a precedential Order that incorporates the receiving water limitations language recommended by USEPA. Consistent with the State Board's Order, this Order requires the Permittees to comply with the applicable water quality standards, which is to be achieved through an iterative approach requiring the implementation of BMPs that are designed to meet water quality standards. Most municipal storm water permits issued in California specify certain minimum control measures and incorporate an iterative process that requires increasingly more effective control measures if the water quality standards are not met.

5. This Order is also consistent with the recent court decisions related to storm water permitting, including the San Bernardino County Superior Court decision regarding the City of Rancho Cucamonga's appeal of the 2002 San Bernardino County MS4 Permit, Order No. R8-2002-0012.

6. This Order does not constitute an unfunded mandate subject to subvention under Article XIII.B, Section (6) of the California Constitution for several reasons, including the following:

   a. This Order implements federally mandated requirements under Clean Water Act Section 402(p)(3)(B). (33 USC §1342(p)(3)(B)).
   b. The Permittees' obligation under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges.

[4] Under the Clean Water Act, the beneficial uses and the water quality objectives to protect those beneficial uses are collectively referred to as water quality standards.
[5] See Attachment 4, Glossary for definition.
[6] Best Management Practices (BMPs) are programs, policies and practices, including structural and engineering controls, to control the discharge of pollutants that are maximized in efficiency. Also see BMP definition under Glossary.

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Deleted: Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their urban runoff management programs. Their total collective and individual activities conducted pursuant to the urban runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.
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c. The Permittees have the authority to levy service charges, fees, or assessments to pay for compliance with this Order. Certain assessments may require voter approval.

d. The Permittees requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act Section 301, subdivision (a). (33 USC §1311(a)).

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C. **Rationale for Requirements**

1. The Regional Board developed the requirements in this Order based on information submitted as part of the ROWD, the MSWMP, monitoring and reporting data, program audits, and other available information, and to be consistent with the federal and state laws and regulations. The Fact Sheet (Attachment 6) contains additional regulatory background information and rationale for requirements in this Order. The Fact Sheet is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments 1 through 5 are also incorporated into this Order.

2. The ROWD included a program effectiveness analysis and recommended a shift in the San Bernardino County MS4 program from programmatic/administrative tasks to compliance based on water quality standards and on tasks identified in the implementation plans for total maximum daily loads (TMDLs). The MSWMP includes risk-based, outcome-oriented and compliance-focused programs and performance commitments. The MSWMP is a dynamic document that implements programs and policies to control the discharge of pollutants in Urban Runoff consistent with the MEP standard. If the control measures proposed and implemented as per the MSWMP and other requirements included in this Order are not effective in meeting water quality standards, the Permittees are required to revise the MSWMP with more effective control measures.

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3. The MSWMP includes the Permittees' performance commitments for each of the major program elements and those performance commitments are incorporated into this Order.

4. Regional Board staff evaluated each of the Permittees' storm water programs and determined that one of the major deficiencies in the programs was a lack of a written procedure on how to implement various elements of the MSWMP. This Order requires each of the Permittees to develop and implement its own Local Implementation Plan (LIP). The LIP should document internal procedures for implementation of the program elements described in the MSWMP.

6. This Order requires the Permittees to revise the MSWMP and associated documents, as needed, to incorporate any applicable requirements in this Order, any

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applicable TMDLs adopted by the Regional Board and approved by the State Board, Office of Administrative Law and the USEPA, and to incorporate any additional applicable BMPs needed to meet water quality standards. All documents submitted in accordance with this Order for approval by the Executive Officer or the Regional Board will be publicly noticed prior to approval by the Executive Officer or the Regional Board[8].

D. **California Environmental Quality Act (CEQA)**

Under Water Code Section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code Sections 21100 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 142 Cal.App.4th 985, mod. (Nov 6, 2006, B184034) 50 Cal. Rptr.3d 619, 632-636.) This action also involves the re-issuance of waste discharge requirements for existing MS4s that discharge storm water and urban runoff and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

E. **Discharge Characteristics/Risk-Based Storm Water Management**

1. This Order regulates the discharge of pollutants from anthropogenic (generated from human activities, excluding agricultural activities) sources and/or activities in urban and storm water runoff, and certain types of de-minimus discharges specifically authorized under Section V of this Order, from areas under the jurisdiction of the Permittees. The term storm water as used in this Order includes storm water runoff, snowmelt runoff, and surface runoff and drainage. Storm water discharges consist of surface runoff that discharges into waters of the U.S. The quality of these discharges varies considerably and is affected by land use activities, hydrology, geology, season, the frequency and duration of storm events, and the presence of illicit disposal practices and illegal connections.
2. Studies conducted by the USEPA, the states, counties, cities, flood control districts and other political entities dealing with urban and "storm water" runoff identified the following major sources of urban runoff "pollution" nationwide[9]:

   a. Industrial sites where appropriate pollution prevention and best management practices (BMPs) are not implemented;
   b. Construction sites where erosion and siltation controls and other BMPs are not implemented; and,
   c. Runoff from urbanized areas; and

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[8] The Executive Officer shall provide members of the public with notice and at least a 30-day comment opportunity for all documents submitted in accordance with this Order. If the Executive Officer, after considering timely submitted comments, concludes that the document is adequate or adequate with specified changes, the Executive Officer may approve the document or present it the to Board for its consideration at a regularly scheduled and noticed meeting. If there are significant issues that cannot be resolved by the Executive Officer, the document will be presented to the Board for its consideration at a regularly scheduled meeting.

[9] See Attachment 4-Glossary, for definition of "storm water", and "pollution".

d. Natural background, including leaching of naturally-occurring nutrients and minerals from local soils.

3. A number of permits have been adopted to address anthropogenic pollution from the sources identified in Finding 2, above. The State Board issued three statewide general NPDES permits: one for storm water runoff from industrial activities (NPDES No. CAS000001, General Industrial Activities Storm Water Permit), a second permit for storm water runoff from construction activities (NPDES No. CAS000002, General Construction Activity Storm Water Permit) and a third permit for Storm Water Runoff Associated with Small Linear Underground/Overhead Construction Projects (CAS000005). Industrial activities (as identified in 40 CFR 122.26(b)(14)) and construction sites of one acre or more, are required to obtain coverage under these statewide general permits. The permittees have developed project conditions of approval for projects requiring coverage under the State's General Permits to be effective at the time of grading or building permit issuance for construction sites on one acre or more and at the time of local permit issuance for industrial facilities.

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4. The State Board also adopted NPDES No. CAS000003 for storm water runoff from facilities (including freeways and highways) owned and/or operated by California Department of Transportation (Caltrans) and NPDES No. CAS000004, for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems. The Regional Board adopted Order No. R8-2007-0001, NPDES No. CAG018001, for concentrated animal feeding operations, including dairies. The Regional Board also issues individual storm water permits for certain industrial facilities within the Region. Currently there are two facilities located within San Bernardino County. Additionally, for a number of facilities that discharge process wastewater and storm water, storm water discharge requirements are included with the facilities' NPDES permit for process wastewater.

5. In most cases, the industries and construction sites covered under the Statewide General Industrial and Construction Activities Storm Water Permits discharge into storm drains and/or flood control facilities owned and operated by the Permittees. The Permittees have enacted a system of local ordinances, building permits and business licensing practices to regulate residential, industrial and construction sites within their jurisdiction for the purpose of reducing storm water pollution to be consistent with the maximum extent practicable standard.

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6. The Regional Board administers compliance with the State's General Industrial and Construction Activities Storm Water Permits. A coordinated effort between the Permittees and the Regional Board staff is critical to avoid duplicative effort when overseeing the compliance of dischargers covered under these General Permits. As part of this coordination, the Permittees have been notifying Regional Board staff when, during their routine activities, they observe conditions that pose a potential threat to water quality or when they discover an industrial facility or construction activity that failed to obtain coverage under the applicable general storm water permit.

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7. The Permittees have conducted storm water and receiving water monitoring as required under the first, second and third term permits. These monitoring data and

data from other sources have confirmed that urban and storm water may contain waste, as defined in CWC § 13050, and pollutants that adversely affect the quality of the waters of the U.S. The discharge of Urban Runoff from an MS4 is defined in the CWA as a "discharge of pollutants from a point source" into waters of the U.S.

8. Urban and storm water runoff may contain elevated levels of pathogens (bacteria, protozoa, viruses), sediment, trash, fertilizers (nutrients: nitrogen and phosphorus compounds), pesticides (DDT, chlordane, diazinon, chlorpyrifos, etc.), heavy metals (cadmium, chromium, copper, lead, zinc, etc.), and petroleum products (oil, grease, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, etc.). Storm water can carry these pollutants to rivers, streams, lakes, bays and the ocean (receiving waters).
9. These pollutants can impact the beneficial uses of the receiving waters and can cause or threaten to cause a condition of pollution or nuisance.
10. Pathogens (from sanitary sewer overflows, septic system leaks, spills and leaks from portable toilets, pets, wildlife, and human activities) can impact water contact recreation and non-contact water recreation. Runoff from San Bernardino County areas is tributary to the Santa Ana River which periodically discharges into the Pacific Ocean in Orange County. Although microbial contamination of the beaches from urban runoff and other sources has resulted in beach closures and health advisories in Orange County, discharges from San Bernardino County are typically captured and infiltrated in designated recharge areas downstream of Prado Dam. In the middle Santa Ana River basin areas, the bacterial levels exceed the Basin Plan objectives (see Finding F, below).
11. The Santa Ana River Watershed has been hydraulically separated into the Upper SAR Watershed (upstream from Prado Dam), and the Lower SAR Watershed (downstream from Prado Dam) since the construction of Prado Dam in 19XX. With the exception of large storm events, flows from the dam are managed to maintain a wetlands area behind the dam, and to be completely captured and infiltrated below the dam (OCWD 2009). Water quality in these flows have been monitored for XX years and found to meet water quality standards for drinking water. Therefore, the dam and wetlands work to ensure that pollutant transport from the upper watershed to the lower watershed is minimal. The impoundment area also serves to prevent trash and debris from being transported downstream. Water quality management in the upper watershed should be targeted to address problems upstream from Prado Dam.
12. Oil and grease from spills can coat birds and aquatic organisms, adversely affecting respiration and/or thermoregulation. Other petroleum hydrocarbon components may cause toxicity to aquatic organisms and may impact human health.
13. Suspended and settleable solids (from construction sites, other sediment sources, trash, and industrial activities) may be deleterious to benthic organisms and may cause anaerobic conditions to form. Sediments and other suspended particulates can cause turbidity, clog fish gills and interfere with respiration in aquatic fauna.

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They may also screen out light, hindering photosynthesis and normal aquatic plant growth and development.

14. If released into the environment, toxic substances (including pesticides, petroleum products, metals, and industrial wastes) can cause acute and/or chronic toxicity, and can bioaccumulate in organisms to levels that may be harmful to human health.

15. Excessive levels of nutrients (from anthropogenic and natural sources including fertilizer use, fire fighting chemicals, decaying plants, confined animal facilities, pets, and wildlife) can cause excessive algal blooms. These blooms may lead to problems with taste, odor, color and increased turbidity, and may depress the dissolved oxygen content, leading to fish kills.

16. Trash and debris, in particular plastics, are aesthetic nuisances and can degrade freshwater and marine environments. Plastic debris, in the form of plastic nurdles, harms wildlife species through ingestion. These plastic nurdles have the capability of absorbing pollutants, such as PCBs, and when ingested by wildlife, expose those animals to pollutant concentrations that may be orders of magnitude higher than the surrounding water. Water Code Section 13367 requires the State Board and the regional boards to implement a program to control discharges of pre-production plastic from point and nonpoint sources. "Floatables" (from trash and debris) are an aesthetic nuisance and can be a substrate for algae and insect vectors. This Order requires the Permittees to control the discharge of trash and debris, including plastic nurdles, from the MS4s to waters of the U.S.

17. Management of dry weather discharges resulting from urbanization provides an opportunity to promote water conservation as well as address water quality. This Order requires the Permittees to promote best management practices for water conservation, and thereby, minimize nuisance flows into and from the MS4s.

18. In order to characterize storm water discharges, to identify problem areas, to determine the impact of urban runoff on receiving waters, and to determine the effectiveness of the various BMPs, an effective monitoring program is critical. The Principal Permittee administers the monitoring program for the Permittees. This program includes storm drain outfall monitoring, receiving water monitoring, and dry weather monitoring. The ROWD compared the monitoring results to: (a) water quality objectives in the Basin Plan; (b) CTR objectives; and (c) USEPA storm water benchmarks contained in the USEPA Multi-Sector Industrial Storm Water Permit. In order to ascertain overall water quality conditions in the permitted area, the Permittees also evaluated monitoring data from other sources such as: (a) National Water Quality Assessment conducted by the USGS[10] (NAWQA); and (b) Santa Ana Regional Water Quality Board's Water Quality Assessment per Section 305(b) of the CWA (RWQCB 305(b) Assessment).

19. The Permittees' water quality monitoring data submitted to date document a number of exceedances of water quality objectives specified in the Basin Plan, CTR criteria

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[10] Belitz, K., Hamlin, S.N.,Burton, C.A., Kent, R., Fay, R.G., and Johnson, T., 2004. *Water Quality in the Santa Ana Basin, California,* 1999-2001.Circular 1238. U. S. Geological Survey. (This is only one of several USGS reports.)

and/or USEPA's storm water bench mark for fecal coliform bacteria, total suspended solids, nutrients, COD and metals. Toxicity has also been observed at some of the monitoring locations. These findings indicate that urban and storm water runoff is causing or contributing to water quality impairments.

20. Comparison of wet weather water quality monitoring data for 2000-2006[11] with that from 1994-1999[12] shows that the median concentrations for most constituents have not changed significantly. Furthermore, monitoring data for the period 1994-2006 indicate that median concentrations of wet weather composite samples at monitoring stations[13] 2, 3, and 8 exceeded the USEPA benchmarks for TSS, COD, NO_3-N, and metals. With the exception of Site 10 (Santa Ana River upstream of Seven Oaks Dam, with drainage from mostly undeveloped areas), coliform bacteria concentrations were far above the Basin Plan water quality objectives. These data support the need for continued monitoring and additional control measures to control the discharge of pollutants from the MS4s.

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21. A limited number of constituents were monitored during dry weather at representative urban runoff locations and some of these constituents also exceeded the Basin Plan objectives. These findings indicate that additional surveillance and controls may be needed to minimize and/or eliminate dry weather flows into and from the MS4s.

22. The Principal Permittee conducted an analysis of the receiving water monitoring data collected during the last 15 years for a number of monitoring sites (Sites 2, 3, 8[14], and 10[15]). This analysis indicates that the most significant water quality problem associated with urban and storm water runoff is bacterial contamination. It also showed that Basin Plan objectives for metals such as lead, copper, and zinc[16] are exceeded more frequently than USEPA benchmarks. The Permittees monitoring data were then compared to monitoring data available from other sources (NAWQA, RWQCB 305(b) Assessment) to determine beneficial use impacts and pollutants causing the impacts. This analysis was then used to prioritize problem areas and to propose a risk-based approach to address these problems.

23. Based on the evaluation of monitoring data described above, the ROWD prioritized the pollutants of concern with regards to storm water management as follow:

    a. High Priority: Coliform bacteria
    b. Medium Priority: Zinc, copper, lead

[11] 2006 ROWD
[12] 2002 ROWD
[13] Drainage at Site 2 (Cucamonga Creek @ Hwy 60) is predominantly urban, influenced by commercial and industrial land uses with some contribution from open space/rural and residential land uses. The predominant land use at Site 3 (Cucamonga Creek @ Hellman) is agricultural, but there is contribution from open space/rural, and discharge from a municipal wastewater treatment plant between Sites 2 and 3. Monitoring site 5 (Hunts Lane n/o Hospitality Lane) is within a constructed storm drain system and flow is mostly from commercial and light industrial land uses.

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[14] Site 8 station is located in the Santa Ana River (SAR) at Hamner Avenue, runoff is mostly from urban land uses.
[15] Site 10 station is located at SAR, upstream of Seven Oaks Dam, runoff is mostly from open/rural areas.
[16] There is no Basin Plan objective for zinc, USEPA benchmark is 0.117 mg/l.

c. Low Priority: Nutrients, COD, TSS

F. **CWA Section 303(d) Listed Waterbodies and TMDLS**

1. Considerable sampling data have been collected to characterize ambient receiving water quality in the Region. Water quality assessments conducted by the Regional Board have identified a number of beneficial use impairments, due in part, to urban runoff. Section 305(b) of the CWA requires each of the regional boards to routinely monitor and assess the quality of waters of its region. If this assessment indicates that beneficial uses are not met, then that waterbody must be listed under Section 303(d) of the CWA as an impaired waterbody.
2. The Regional Board's 2006 water quality assessment listed a number of water bodies within the permitted area under Section 303(d) as impaired water bodies (see Table 3)[17].
3. Federal regulations require that a total maximum daily load (TMDL) be established for each 303(d) listed waterbody for each of the pollutants causing impairment. The TMDL is the total amount of the problem pollutant that can be discharged into a water body from all sources and still maintain water quality standards in the receiving water, i.e., water quality objectives are met and the beneficial uses are protected. A TMDL is the sum of the individual wasteload allocations (WLA) for point source inputs, load allocations (LA) for non-point source inputs and natural background, with a margin of safety. The TMDLs are one of the bases for limitations established in waste discharge requirements.
4. For 303(d) listed waterbodies without a TMDL, the Permittees are required participate in the development and implementation of TMDLs. If a TMDL has been developed and an implementation plan is yet to be developed, the Permittees are required to develop constituent-specific source control measures, conduct additional monitoring and/or cooperate with the development of an implementation plan.

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[17] On April 24, 2009, the Regional Board adopted the 2008 Integrated Report of Federal Clean Water Act Section 305(b) and Section 305(d) List of Water Quality Limited Segments, Resolution No. R8-2009-0032.

Table 3. CWA Section 303(d) List of Water Quality Limited Segments, Santa Ana Region {Waterbodies Requiring a TMDL in San Bernardino County[1]}

Water Body Name	Pollutant / Stressor	Potential Sources	Proposed TMDL Completion
Big Bear Lake	Copper	Resource extraction	2007
	Mercury	Resource extraction[18]	2007
	Metals[3]	Resource extraction	2007
	Noxious aquatic plants	Construction/Land development, Unknown point source	2006
	Nutrients	Construction/Land development, Snow skiing activities	2006
	PCBs (Polychlorinated biphenyls)	Source unknown	2019
	Sedimentation/Siltation[4]	Construction/Land development, Snow skiing activities, Unknown nonpoint source	2006
Summit Creek	Nutrients	Construction/Land development	2008[2]
Knickerbocker Creek	Metals	Unknown Nonpoint Source	2007
	Pathogens	Unknown nonpoint source	2005
Grout Creek	Metals	Unknown nonpoint source	2007
	Nutrients	Unknown nonpoint source	2008[2]
Rathbone (Rathbun) Creek	Nutrient	Unknown nonpoint source, Snow skiing activities	2008[2]
	Sedimentation/Siltation	Unknown nonpoint source, Snow skiing activities	2006
Mountain Home Creek	Pathogens	Unknown nonpoint source	2019
Mountain Home Creek, East Fork	Pathogens	Unknown nonpoint source	2019
Lytle Creek	Pathogens	Unknown nonpoint source	2019
Mill Creek (Prado Area)	Nutrients, Suspended Solids	Agriculture, dairies Dairies	2019 2019
Prado Park Lake	Nutrients	Nonpoint source	2019
Chino Creek Reach 1[1]	Nutrients	Agriculture, dairies	2019
Mill Creek Reach 1[1]	Pathogens	Unknown nonpoint source	2019
Mill Creek Reach 2[2]	Pathogens	Unknown nonpoint source	2019
Santa Ana River, Reach 4	Pathogens	Nonpoint Source	2019

[18] Resource extraction was removed as a potential source for Mercury in Big Bear Lake and replaced with atmospheric deposition in the Proposed 2008 303(d)-305(b) Integrated Report

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[1] Based on State Board 2006 CWA Section 303(d) List of Water Quality Limited Segments, Santa Ana Regional Water Quality Control Board, USEPA Approved June 28, 2007 (http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r8_06_303d_reqtmdls.pdf)
[2] These waterbodies are being incorporated into the nutrient TMDL under development for Big Bear Lake.
[3] Big Bear Lake is recommended for delisting for copper in the Proposed 2008 303(d)-305(b) Integrated Report
[4] Big Bear Lake is recommended for delisting for sedimentation/siltation in the Proposed 2008 303(d)-305(b) Integrated Report

5. Big Bear Lake is included under the 2006 CWA Section 303(d) list for mercury. Historical and recent monitoring results conducted by Regional Board staff and other entities confirm that the Office of Environmental Health Hazard Assessment's (OEHHA) mercury fish tissue screening level of 0.3 mg/kg has been exceeded. This finding is likely to impact REC1 (fishing) uses of Big Bear Lake. Recent monitoring efforts and technical support documents (Tetra Tech, 2008)[19] to determine the source of mercury and to develop TMDLs, indicate that though majority of the watershed load originates from atmospheric deposition, delivery is dependent on runoff and sediment transport to the lake. However, there is insufficient data to draw conclusions about the effect of urbanization on mercury input to the Lake.
   a. It has been demonstrated that mercury loadings are proportional to fine sediment loads and sediment loads are directly proportional to increases in flow rates. The 2008 Tetra Tech report states that the watershed sediment-associated mercury load is one of two components to the "external" loading of mercury. The report makes the arguments that:
      - The amount of sediment moving through the major streams is equivalent (as a long-term average) to the rate of sediment loading to those streams, as estimated by a sediment load model.
      - The concentration of mercury in sediment moving through the system is equivalent to the concentration measured in stream sediment samples.
   b. Urbanization generally increases impermeable surfaces and that results in increased flow rates which in turn could increase mercury loadings to Big Bear Lake.
   c. The Big Bear Lake Mercury TMDL is expected to be completed and approved within this permit cycle. This Order may be reopened to include any additional requirements from the Mercury TMDL Implementation Plan.
   d. Pending adoption of the Big Bear Lake Mercury TMDL, this Order requires the stakeholders to participate in the implementation of control measures to minimize the impact of urbanization on water quality.
6. Knickerbocker Creek Sole Source Pathogen Investigation and Control:

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[19] Big Bear Lake Technical Support Document for Mercury TMDL,, September 2008, Prepared by Tetratech for U.S EPA Region 9 and Santa Ana Regional Water Quality Board

a. Knickerbocker Creek is one of Big Bear Lake's tributaries. It is engineered and constructed of concrete through the Big Bear Village area to carry flows from 100-year flood events, but is a natural channel within the upper boundaries of the City and the Forest Service area. The Creek is an ephemeral stream that flows largely in response to storm events or during the spring when runoff is comprised largely of snowmelt.

b. The Basin Plan designates municipal and domestic water supply (MUN), water contact recreation (REC1) and non-contact water recreation (REC2) as beneficial uses of Knickerbocker Creek.

c. To protect MUN beneficial use, the Basin Plan specifies a numeric water quality objective for total coliform of less than 100 organisms/100 mL. To protect REC1 beneficial use, the Basin Plan specifies numeric water quality objectives for fecal coliform indicator bacteria of log mean less than 200 organisms/100 mL based on five or more samples/30 day period and not more than 10% of the samples shall exceed 400 organisms/100 ml for any 30-day period.

d. In 1994, Regional Board issued a report titled "The Investigation of Toxics and Nutrients in Big Bear Lake" which included test results for Big Bear Lake and many of its tributaries for bacterial indicators.

e. The test results indicated that Knickerbocker Creek had bacteria indicator levels that exceeded the MUN and REC1 Basin Plan objectives for total coliform and fecal coliform. In 1994, Knickerbocker Creek was placed on the Clean Water Act Section 303(d) List as impaired for pathogens.

f. As a result of the 303(d) listing, the Regional Board needed to develop a regulatory strategy to address the elevated bacterial levels. Typically, this is the development and implementation of TMDLs.

g. In 2000, Regional Board staff initiated development of TMDLs in the Big Bear Lake watershed, including the Knickerbocker Creek bacteria indicator TMDL. A sampling program was conducted from June 2002 through April 2003, on five sites along the Creek, to identify potential sources of elevated bacteria levels, if any.

h. The results of the sampling program indicated that at times, bacterial indicators exceeded the Basin Plan objectives for total and fecal coliform at the sampling sites located within city boundaries. However, data from the station representing drainage from the forested area indicated that bacterial indicator concentrations complied with the Basin Plan objectives.

i. The monitoring results indicated that although bacteria were also detected outside of city boundaries, the concentrations were not high enough to cause water quality objectives to be exceeded in Knickerbocker Creek.

j. The sampling program identified the runoff from the City as a source of bacteria contamination in Knickerbocker Creek. Regional Board staff determined that the bacteria sources in Knickerbocker Creek could be addressed through the MS4 permit without developing a TMDL.

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k. Since most of the inlets to Knickerbocker Creek are from a conduit or other channelized systems from the City, the City was required to address this bacterial problem.

l. Pursuant to Provision IV, Receiving Water Limitations, Order No. R8-2002-0012 (third term permit), the Executive Officer directed the City of Big Bear Lake to submit by September 30, 2005: (i) a plan and a schedule for identification and investigation of the sources of bacteria; (ii) a list of the BMPs that are currently being implemented and additional BMPs that must be implemented to address the exceedance of bacteria in Knickerbocker Creek; (iii) a plan and a schedule for implementation of additional control measures (including BMPs) to reduce or eliminate the exceedances; and (iv) a plan and a schedule for implementation of a monitoring program to evaluate the efficacy of any control measures implemented[20].

m. In compliance with the above, the City of Big Bear Lake submitted a plan and a schedule and conducted a source identification study and Phase 1 of the water quality monitoring program in 2006. The City investigated the entire sewer and septic systems located near Knickerbocker Creek and found no sanitary sewer leaks or septic system problems in the area.

n. Molecular DNA analysis confirmed that the bacteria contamination was not from human sources, but more likely from canine sources.

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o. In December 2007, the City purchased and installed several pet waste stations in the Knickerbocker Creek catchment areas, and installed portable toilets near parks and other recreation areas to reduce the potential for bacteria contamination in the Creek. The City believes that these control measures should address the bacteria problems in the Creek.

p. The City is currently implementing Phase 2 of the water quality monitoring program[21] to assess the effectiveness of these control measures. Three sampling locations in the Creek within City boundaries were selected based on increased frequency of high bacteria levels and availability of sustained flows.

q. This Order requires the City to continue monitoring and assessment of the effectiveness of its control measures.

7. Within the permitted area, there are two approved TMDLS: (a) the Middle Santa Ana River Bacterial Indicator TMDL (MSAR TMDL); and (b) Big Bear Lake Nutrient TMDL for Dry Hydrological Conditions. The Basin Plan amendment incorporating the MSAR TMDL was approved by the Regional Board on August 26, 2005 (Resolution No. R8-2005-0001), by the State Board on May 15, 2006, by the state's Office of Administrative Law on September 1, 2006, and by the USEPA on May 16, 2007.

[20] Santa Ana Regional Water Quality Control Board, Letter from Gerard J. Thibeault, July 31, 2005, "Determination of Water Quality Standards Exceedance in Knickerbocker Creek Being Caused by MS4 Discharges in the City of Big Bear Lake".
[21] City of Big Bear Lake, January 2008, "Bacteria Monitoring Plan for Knickerbocker Creek Phase 2.

8. The purpose of the MSAR TMDL is to assure that REC1 beneficial uses are protected. To that end, the Regional Board adopted wasteload allocations for fecal coliform and *E. coli* in the following impaired waterbodies: Santa Ana River (Reach 3), Chino Creek (Reaches 1 and 2), Prado Park Lake, Mill Creek (Prado Area), and Cucamonga Creek (Reach 1). Because the initial compliance date specified in the TMDL is not until 2015, and because the Regional Board is in the process of reviewing and revising the water quality objectives for pathogen indicator bacteria, the permit does not contain numeric effluent limits for fecal coliform or E. coli. Rather, the MS4 dischargers are required to develop and implement BMPs designed to reduce bacterial pollution to the maximum extent practicable and to evaluate the effectiveness of those efforts. The Regional Board reserves the right to reopen the permit to add numeric effluent limits if the iterative BMP approach proves inadequate to assure attainment of water quality standards.

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9. The MSAR TMDL Implementation Plan assigns responsibilities to identify sources of impairment, to propose BMPs to address those sources, and to monitor, evaluate, and revise BMPs as needed, based on the effectiveness of the BMP implementation program. Specific Implementation Plan tasks are described in Chapter 5 of the Basin Plan and are assigned to one or more of the Permittees. Requirements of the TMDL Implementation Plan tasks are incorporated into this Order. A number of these Implementation Plan tasks are also jointly assigned to non-Permittee stakeholders. The stakeholders have established TMDL task forces to jointly implement and coordinate the TMDL Implementation Plan tasks.

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10. The MSAR TMDL Task Force members are listed in Table 4:

Table 4. Middle Santa Ana River Bacterial Indicator TMDL Task Force

MS4 Permittees	Non-MS4 Permittees
San Bernardino County Flood Control District (as Principal Permittee and on behalf of the Co-Permittees named in the TMDL)	Santa Ana Watershed Project Authority (SAWPA)
	RWQCB, Santa Ana Region
Corona, City of (Riverside County MS4 Permittee)	US Department of Agriculture, Forest Service
Norco, City of (Riverside County MS4 Permittee)	
Riverside, City of (Riverside County MS4 Permittee)	Milk Producers Council
Riverside, County of (Riverside County MS4 Permittee)	Chino Basin Watermaster Agricultural Pool
Riverside County Flood Control and Water Conservation District (Riverside County MS4 Principal Permittee)	Region 4 MS4 Permittees[22]: Cities of Claremont and Pomona

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11. Some of the requirements in the MSAR TMDL implementation plan are described below:

[22] The Cities of Pomona and Claremont are not yet formal members of the Task Force, pending approval of an amended Task Force Agreement.

a. The Implementation Plan for the MSAR TMDLs includes WLAs for urban discharges and for CAFOs, and LAs for agriculture and natural sources (open space and undeveloped forest land) during wet and dry weather conditions.

b. The Implementation Plan for the MSAR TMDLs also specifies a number of tasks and numeric targets for fecal coliform and *E. coli*. Some of these tasks have been completed.

c. Pursuant to Task 3, the MSAR TMDL Task Force submitted a monitoring plan, which was approved by the Regional Board on June 29, 2007 (Resolution No. R8-2007-0046).

d. Pursuant to Task 4, the MSAR TMDL Task Force submitted an Urban Source Evaluation Plan that was approved by the Regional Board on April 18, 2008 (Resolution No. R8-2008-0044). The Task Force has also conducted the required urban source monitoring and is evaluating the results to determine sources of pathogens.

e. Consistent with Task 4.2, this Order requires the Permittees to revise the MSWMP to address the results of the USEP and/or other studies, propose BMPs to be implemented and initiate a Waste Load Allocation (WLA) pre-compliance evaluation monitoring[23] to evaluate the effectiveness of BMPs implemented in the MSAR watershed in reducing bacterial indicators in urban runoff by the compliance date.

12. Stakeholders in the Santa Ana Region have formed the Storm Water Quality Standards Task Force (SWQSTF) to evaluate USEPA's bacterial indicator recommendations and appropriate recreational beneficial use designations for waterbodies throughout the Region. The SWQSTF is expected to make recommendations for the adoption of alternative bacterial indicators such as *E.coli,* based on USEPA's "Ambient Water Quality Criteria for Bacteria - 1986". These and other recommendations of the SWQSTF for revisions to recreational beneficial use definitions and designations will be considered through the Basin Planning process. When and if the Basin Plan is amended to incorporate new beneficial use definitions, designations, and/or bacterial standards, the MSAR TMDLs will be revised, as appropriate.

13. On April 21, 2006, the Regional Board adopted the Big Bear Lake Nutrient TMDL for Dry Hydrological Conditions (Resolution R8-2006-0023) (BBLN TMDL); the State Board approved the Basin Plan Amendment on April 3, 2007 and the Office of Administrative Law approved the Basin Plan Amendment on August 21, 2007. USEPA approved the TMDL on September 25, 2007. There were insufficient watershed and in-lake nutrient data to support development of TMDLs, load allocations, and wasteload allocations for average and/or wet hydrologic conditions; therefore the TMDL is specific to dry hydrological conditions. This Order requires the Permittees to implement the tasks identified in the implementation plan for the BBLN TMDL.

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[23] Pre-compliance evaluation monitoring is monitoring conducted prior to the TMDL compliance date to assess the effectiveness of BMPs implemented in reducing pollutant(s) of concern by the compliance date.

14. Some of the details of the implementation plan for the Bear Lake Nutrient TMDL for Dry Hydrological Conditions are described below.

    a. The BBLN TMDL includes an urban WLA for total phosphorus for dry hydrologic conditions. Phosphorus is generally considered as the controlling nutrient causing impairment in Big Bear Lake.

    b. Nutrient discharges to the lake have promoted the proliferation of nuisance aquatic plants which have impacted the lake's beneficial uses and dissolved oxygen levels.

    c. The BBLN TMDL specifies response numeric targets for chlorophyll a, macrophyte coverage and percentage of nuisance aquatic vascular plant species for Big Bear Lake. These response numeric targets provide a method to track improvements in water quality.

    d. The numeric targets apply to all hydrological conditions. The TMDL specifies that these targets be achieved no later than 2015 for dry hydrological conditions and no later than 2020 for all other hydrological conditions. The Regional Board will judge BMP effectiveness primarily on the basis of how well the MS4's adaptive management program does at meeting these targets for the controllable sources within their jurisdiction. The Regional Board reserves the right to reopen the permit to add numeric effluent limits if the iterative BMP approach proves inadequate to assure attainment of water quality standards.

    e. This Order requires the County, SBCFCD and the City of Big Bear Lake (the MS4 Permittees) to develop and implement BMPs designed to meet the urban wasteload allocation and to demonstrate effectiveness of the BMPs. Where long-term effectiveness assessments indicate WLAs are not being achieved, MS4 Permittees must develop and implement additional BMPs or demonstrate that no additional practicable BMPs are available.

    f. The Nutrient TMDL Implementation Plan requires the collection and evaluation of nitrogen data to determine compliance with the existing total inorganic nitrogen (TIN) objective for Big Bear Lake.

    g. The TMDL for Dry Hydrological Conditions does not specify nutrient reductions from external watershed sources, which include urban discharges (WLA), resorts and open space/forested lands (LAs). Instead, the TMDL for Dry Hydrological Conditions specifies a reduction in phosphorus from internal nutrient sources, which are lake sediment and macrophytes. External load dischargers are responsible for reducing their contributions to the internal nutrient loads.

    h. On December 6, 2006, the City of Big Bear Lake and Snow Summit, Inc., signed a Memorandum of Understanding (MOU) regarding Snow Summit's storm water discharges into the City's MS4 system. The City of Big Bear Lake and Snow Summit agreed that the City has the authority to regulate storm water discharges from properties, including Snow Summit's facilities, to the extent such storm water discharges enter lands within the boundaries of the City, any waters within the jurisdiction of the City, or the City's MS4 facilities. This provides the City an additional tool to control nutrient discharges to the Lake. Responsible agencies

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and dischargers in the Big Bear Lake watershed have formed a Big Bear Lake TMDL Task Force. The Task Force members are working jointly to implement requirements of the BBLN TMDL.

i. On May 4, 2009, the Big Bear TMDL Task Force submitted a revised watershed monitoring plan. At the May 22, 2009 board meeting, the Regional Board approved the Big Bear Lake Watershed-wide Nutrient Monitoring Plan by adopting Resolution No. R8-2009-0043. This watershed-wide monitoring plan, together with the in-lake monitoring plan (Resolution No. R8-2008-0070) approved by the Regional Board on July 18, 2008 were designed to determine the sources of phosphorus; support the development of TMDLs applicable to other hydrologic conditions; and evaluate compliance with numeric targets specified in the TMDLs.

j. The Big Bear Lake TMDL Task Force has also submitted a lake management plan that is currently under review.

15. As indicated in Table 3, above, bacteria, metals and nutrients are the pollutants of concern for a majority of the waterbodies within the permitted area. One of the major sources of bacteria and nutrients is concentrated animal feeding operations. Dairy facilities within the region are regulated under the Regional Board's Concentrated Animal Feeding Operations (CAFO) Permit. The Regional Board enforces the CAFO Permit. The Permittees are required to identify and control urban sources of bacteria, nutrients and other pollutants within their jurisdictions, and consistent with the MEP standard.

G. **New Development/Significant Redevelopment – WQMP/LID**

1. Significant numbers of development projects have taken place in San Bernardino County in the last decade. These developments have resulted in the urbanization of many areas. Urbanization generally increases storm water runoff volume, velocity and the amount of pollutants in the runoff. As development occurs, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots.

2. Urbanization especially threatens environmentally sensitive areas (ESAs)[24] as well as stream habitat and structure. Such areas typically have much less capacity to assimilate increased pollutant loads. Therefore, development that would otherwise have minimal impact on the environment may adversely impact a sensitive environment.

3. Increased volumes and velocities of storm water discharges from MS4s into natural watercourses can cause stream bank erosion and physical modifications that adversely impact aquatic ecosystems and stream habitat. These changes can be caused by hydromodification[25]. For the permitted area, the remaining natural streams in the mountains and in lightly urbanized or undeveloped portions of the

[24] See Attachment 4, Glossary for definition of ESA.
[25] See Attachment 4,Glossary for definition of hydromodification.

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watershed are most likely to experience adverse impacts due to new development and significant redevelopment projects.

4. On October 5, 2000, the State Board adopted Order No. WQ-2000-11, which required that urban runoff generated by 85th percentile storm events from specific types of development categories (priority projects) be infiltrated, filtered or treated. The essential elements of this precedential Order were incorporated into the third term permit, and are incorporated herein. In accordance with the requirements specified in the third term permit, the Permittees developed a model Water Quality Management Plan (WQMP) Guidance and Template and are currently implementing the essential elements of the approved model WQMP.

5. Recent studies have indicated that low impact development[26] (LID) may be an effective storm water management approach that may minimize adverse impacts on storm water runoff quality and quantity resulting from urban developments. However, the USEPA noted in its studies of LID techniques that "data regarding both the effectiveness of [LID] practices and their costs remain limited." The USEPA specifically noted that "more research is needed to quantify the environmental benefits that can be achieved through the use of LID techniques." The Southern California Monitoring Coalition (SMC), including the project lead agency (the San Bernardino County Flood Control District), in collaboration with SMC member Southern California Coastal Water Research Project (SCCWRP) and the California Storm Water Quality Association (CASQA), with funding from the State Water Resources Control Board and CASQA is developing a Low Impact Development Manual for Southern California. This manual will be incorporated into the CASQA BMP Handbooks. The Permittees will incorporate, where feasible and practicable, the LID process outlined in this manual into a revised version of the WQMP.

6. This Order requires the project proponents to first consider preventative and conservation techniques (e.g., preserve and protect natural features to the maximum extent practicable) prior to considering mitigative techniques (structural treatment, such as infiltration systems). The mitigative measures should be prioritized with the highest priority for infiltration BMPs, then other BMPs, such as harvesting and re-use, evapotranspiration and bio-treatment[27] should be considered. The Regional Board recognizes that site conditions, including site soils, contaminant plumes, high groundwater levels, etc., limit the applicability of infiltration and other LID BMPs at certain project sites. Where LID BMPs are not feasible at the project site, more traditional[28], but equally effective, control measures should be considered. This Order also provides for alternatives and in-lieu programs where preferred BMPs are infeasible.

7. The USEPA has determined, based on limited data, that LID/green infrastructure can be a cost-effective and environmentally preferable approach for the control of storm water pollution and to minimize downstream impacts by mimimizing changes

[26] See Attachment 4, Glossary, for definition of LID.
[27] In general, these types of BMPs utilize vegetation that promote pollutant uptake and evapotranspiration and/or natural or soil type media filtration with volume retention capacity and ability to reduce pollutant concentration.
[28] Typical engineered and/or proprietary treatment devices that capture/filter pollutants but do not contribute to maintenance of pre-development site hydrology. Examples are vortex separators, catch basin filters.

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in site hydrology. LID and the reduction of impervious areas, may achieve multiple environmental and economic benefits in addition to enhanced water quality and supply, stream and habitat protection, cleaner air, reduced urban temperature, increased energy efficiency and other community benefits such as aesthetics recreation, and wildlife areas. USEPA has reviewed a limited number of studies[29] that have evaluated relationships between the percentage of effective impervious area (EIA) and physical degradation of stream channels (also see the SCCWRP study[30]). The limited study conducted by Dr. Richard Horner concluded that a 3% EIA standard for development is feasible in Ventura County. USEPA believes that EIA may be a reasonable metric for incorporating LID principles into storm water permits and EPA supports equally effective metrics for compliance determination. This Order incorporates a volume capture metric based on the design volume specified in the WQMP and the EIA metrics.

8. It is recognized that LID principles are universal concepts, however, their applicability is dependent on site-specific factors such as: soil conditions including soil compaction and permeability, groundwater levels, soil contaminants (brown field development), space restrictions (in-fill projects, redevelopment projects, high density development, transit-oriented developments), etc.

9. The model WQMP Guidance and Template provide a framework to incorporate some of the watershed protection principles into the Permittees' planning, construction and post-construction phases of priority projects. The model WQMP requires site design (including, where feasible, LID principles), source control and treatment control elements to reduce the discharge of pollutants in urban runoff. On April 30, 2004, the Regional Board approved the model WQMP Guidance and Template. The Permittees are requiring project proponents to develop and implement site-specific WQMPs. This order requires the Permittees to determine functionality through engineering review and ensure long term operation and maintenance of post construction BMPs via inspection.

10. An audit of each of the Permittees' storm water management programs during the third term permit indicated no clear nexus between the watershed protection principles, including LID techniques, specified in the WQMP and the Permittees' General Plan or related documents such as Development Standards, Zoning Codes, Conditions of Approval, Project Development Guidance, etc. This Order requires the Permittees to review and evaluate the Permittees' CEQA documentation, General Plan, Comprehensive or Master Plan, Municipal Codes, Subdivision Ordinances, Project Development Standards, Conditions of Approval or related documents to determine whether removal of remove any barriers, within their

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[29] See Southern California Coastal Water Research Project, "Managing Runoff to Protect Natural Streams: The Latest Developments on Investigation and Management of Hydromodification in California", dated December 30, 2005, Eric Stein and Susan Zaleski and the analysis prepared by Dr. Richard Horner entitled, "Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County" submitted to Los Angeles Regional Board by NRDC

[30] Studies conducted by Southern California Coastal Water Research Project (SCCWRP) and others indicate that environmental impacts from developments could be minimized by limiting the effective impervious area.

control, is feasible for implementation of LID techniques and other requirements of this Order. Where feasible, the Permittees will make appropriate changes to remove barriers to implementation of LID techniques and other requirements of this Order.

11. This Order also requires the Permittees to review, Covenants, Conditions and Restrictions (CC&R) or other mechanisms to ensure proper long term operation and maintenance of post-construction BMPs.

12. In addition to addressing post-development Urban Runoff water quality, the WQMP includes requirements to protect environmentally sensitive areas and to address potential hydromodification issues that may result from each project. Section 2.3 of the WQMP requires identification of hydrologic conditions of concern (HCOC). An HCOC exists when a site's hydrologic regime is altered and there are likely to be significant[31] impacts on downstream channels and aquatic habitats, alone or in conjunction with impacts of other projects. Currently, new development and significant re-development projects are required to perform this assessment and incorporate appropriate BMPs to ensure existing hydrologic conditions are maintained. This Order requires the Permittees to implement, where feasible, LID techniques to minimize HCOC, and supports the implementation of in-stream hydromodification protection and/or mitigation alternatives where appropriate.

13. Management of the impacts of urbanization on water quality, stream stability and aquatic habitats can sometimes be more effective if the techniques are implemented based on a coordinated watershed plan, whether done at the project site, within the neighborhood, or within each municipality. During the third term permit, the Permittees initiated a watershed mapping project to develop a GIS-based map of the permitted area with the goal of identifying and developing specific action plans for protecting those segments of streams and channels that are vulnerable to impacts from urbanization.

14. The Regional Board and the Permittees recognize the importance of watershed management initiatives and regional planning and coordination in the development and implementation of programs and policies related to water quality protection. A number of such efforts are underway where the Permittees are active participants, including the Stormwater Quality Standards Task Force (SWQSTF) and the Middle Santa Ana River Watershed TMDL Task Force. This Order encourages continued participation in such programs. Furthermore, this Order recognizes that some of these planning efforts may result in significant changes to the Basin Plan. This Order may be reopened to address such changes. The Executive Officer is authorized to approve, based on the established timeline and after proper public notification, any request for reallocation of monitoring funds from lower priority local programs to regional monitoring programs.

15. This Order also requires the Permittees to develop a Watershed Action Plan to address cumulative impacts of development on vulnerable streams, preserve or

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[31] It is expected that the current HCOC mapping effort and stream/risk characterization effort will define what should be considered as significant impact or stream vulnerability to hydromodification on a watershed basis.

restore to the maximum extent practicable the structure and function of streams in the permitted area, and protect surface water quality and groundwater recharge areas. The Watershed Action Plan should integrate hydromodification and water quality management strategies with land use planning policies, ordinances, and plans within each jurisdiction.

16. Pending completion of a Watershed Action Plan, the Permittees are required to address the impacts of urbanization as required under the approved model WQMP by requiring project proponents to develop and implement project-specific WQMPs.

17. If not properly designed and maintained, the structural treatment control BMPs could create a nuisance and/or habitat for vectors[32] (e.g., mosquitoes and rodents). Third term permit required the Permittees to closely collaborate with the local vector control agencies during the development and implementation of such treatment systems. The Permittees should continue these collaborative efforts with the vector control agencies to ensure that treatment control systems do not become a nuisance or a potential source of pollutants. The requirements specified in this Order include identification of responsible agencies for maintaining the systems and for providing funding for operation and maintenance.

18. If not properly designed and maintained, groundwater infiltration systems could also adversely impact groundwater quality. Restrictions placed on urban runoff infiltration in this Order (Section XI.D.7) are based on recommendations provided by the USEPA Risk Reduction Laboratory. The Permittees should continue to work closely with the water districts and water conservation districts to ensure groundwater protection.

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H. **Municipal Inspection Programs**

1. The Permittees are required to conduct inspections of construction sites, industrial facilities, and commercial establishments. An evaluation of the Permittees' inspection programs during the third term permit indicated a wide range of compliance and non-compliance with the inspection requirements. In many instances, the facilities' return to compliance was not properly documented. This Order includes requirements for a more effective inspection program and includes a performance measure, time to return to compliance, as a metric for program effectiveness.

2. During the third term, the Permittees initiated development of a risk-based prioritization scheme to prioritize facilities for inspections. In the absence of an approved risk-based prioritization scheme, the Permittees are required to use the prioritization methodology specified in the 3rd term permit. Upon approval of the risk-based prioritization scheme, the Permittees are required to utilize that system to prioritize their inspections.

[32] Managing Mosquitoes in Stormwater Treatment Devices, Marco E. Metzger, University of California Davis, Division of Agriculture and Natural Resources, Publication 8125.

I. **Illegal Discharges/Illicit Connections**

Illegal discharges to the MS4s could contribute to storm water and other surface water contamination. During the second term permit, the Permittees completed a reconnaissance survey of their open channels and underground storm drains to detect and eliminate any illicit connections (undocumented or unpermitted connections to the MS4s). The Permittees have trained their staff on illegal discharge surveillance/cleanup procedures. Audits conducted during the third term permit indicated that this program element is generally carried out through complaint response. This Order requires each Permittee to revise this program element based on the Center for Watershed Protection's Illegal Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments.

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J. **Technology-Based Effluent Limitations (Not Applicable)**

K. **Non-storm Water/De-Minimus Discharges**

The MS4s generally convey non-storm water flows such as irrigation runoff, runoff from non-commercial car washes, runoff from miscellaneous washing and cleaning operations, and other nuisance flows generally referred to as de-minimus discharges. Federal regulations, 40 CFR Part 122.26(d)(2)(i)(B), prohibit the discharge of non-storm water containing pollutants into the MS4s and to waters of the U.S. unless they are regulated under a separate NPDES permit or are exempt as indicated in Effluent Limitations and Discharge Specifications, Section V.A of this Order. On March 24, 2009, the Regional Board adopted Order No. R8-2009-0003, to address de-minimus types of discharges. The Permittees need not get coverage under the de-minimus permit for the types of discharges listed under Section V.B, as long as they are in compliance with the conditions specified in this Order and the substantive requirements of Order No. R8-2009-0003.

L. **Water Quality-Based Effluent Limitations (WQBELs) / Numeric Effluent Limits (NELs)**

1. 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving waters. Where numeric water quality criteria have not been established, 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed state criteria or a state policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. In *Defenders of Wildlife, et al* v. *Browner,* No. 98–71080 (9th Cir., October 1999). The Court held that the CWA does not require ''strict compliance'' with State water quality standards for MS4 permits under section 301(b)(1)(C), but that at the same time, the CWA does give EPA discretion to incorporate appropriate water quality-based effluent limitations under another provision, CWA section 402(p)(3)(B)(iii). 40 CFR 122.44(k)(3) allows the use of BMPs to control or abate the discharge of pollutants when numeric effluent limitations are infeasible or when practices are reasonably necessary to achieve

effluent limitations and standards or to carry out the purposes and intent of the CWA. The legislative history and the preamble to the federal storm water regulations indicated that Congress and the USEPA were aware of the difficulties in regulating Urban Runoff solely through traditional end-of-pipe treatment. It is the Regional Board's intent to require the Permittees to implement best management practices consistent with the MEP standard in order to support attainment of water quality standards. This Order includes receiving water limitations based on water quality objectives, prohibits the creation of nuisance, and requires the reduction of water quality impairment in receiving waters. The Permit includes a procedure for determining whether storm water discharges are causing or contributing to exceedances of receiving water limitations and for evaluating whether the MSWMP must be revised to meet water quality standards. The Order establishes an iterative process to determine compliance with the receiving water limitations.

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2. To support attainment of water quality standards, consistent with the MEP standard, this Order requires the Permittees to implement a number of management practices and an iterative process to ensure that water quality standards are achieved. The Permittees are required to:

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   a. Implement BMPs at all their facilities and for all their activities,

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   b. Require BMPs, including LID techniques, to be implemented at new and re-development project sites within their jurisdiction prior to accepting discharge from these sites into their MS4s,

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   c. Implement and annually evaluate the area-wide MSWMP and each Permittee's LIP for effectiveness in reducing pollutants in urban and storm water runoff, and

   d. Perform monitoring and reporting to determine adequacy of BMPs within the permitted area.

3. This Order includes permit conditions necessary to implement the TMDLs already approved by the Regional Board as required by federal regulations at 40 CFR 122.44(d)(vii(B). This Order requires Permittees to achieve the wasteload allocation for urban runoff/stormwater through an iterative process of implementing BMPs to the MEP. Failure to submit a BMP implementation plan to the Regional Board or failure to implement the approved plan in a timely manner will be deemed to violate the conditions of this Order. The federal Clean Water Act requires the Permittees to have appropriate controls to reduce the discharge of pollutants to the MEP, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants (33 USC 1342(p)(3)(B)). MEP is a dynamic performance standard and it evolves as the knowledge of urban runoff control measures increases. Permittees are required to monitor and report effectiveness of their BMPs with respect to pollutant reduction goal(s) as one measure of progress toward reducing pollutant loads from urban sources in accordance with the compliance schedules specified in the TMDL implementation plans. If on-going monitoring indicates that implemented BMPs are insufficient to assure compliance with the relevant water quality standard(s), then the Permittees are required to develop and implement additional and/or more effective BMPs for the

Deleted: This Order includes effluent limits for those constituents for which the Regional Board has already established TMDLs/WLAs.

controllable bacteria sources within their jurisdiction to the MEP. In addition, the Permittees are required to submit a revised BMP implementation plan documenting the completion schedule for any additional and/or more effective BMPs and must execute the plan upon approval by the Regional Board. Taken together, these permit conditions are consistent with the facts and assumptions specified in the TMDLs, including the TMDL Implementation Plans, and are expected to achieve compliance with the related wasteload allocations.

4. Since some of the compliance dates for the TMDLs are outside this permit term, this Order does not impose the wasteload allocations for bacteria or nutrients as numeric effluent limits. However, the Regional Board reserves the right to reopen the permit and add such limitations if MS4 dischargers fail to implement the BMPs approved by the Board or the iterative BMP process proves inadequate to achieve the urban wasteload allocation. Numeric effluent limits are included for de-minimus types of discharges from Permittee-owned or permittee-operated facilities and activities and for total dissolved solids and total inorganic nitrogen for dry weather discharges.

Deleted: This Order requires Permittees to comply with established TMDL wasteload allocations specified for urban runoff and/or storm water by implementing the necessary BMPs. NPDES regulations at 40 CFR 122.44(d)(vii)(B) require that permits be consistent with wasteload allocations approved by U. S. EPA. This order requires the Permittees to comply with the urban runoff/storm water wasteload allocations. Consistent with the federal storm water laws and regulations (see Attachment 6, Fact Sheet), the Order does not include numeric effluent limits for other potential pollutants. Federal Clean Water Act requires the Permittees to have appropriate controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants (33 USC 1342(p)(3)(B)). MEP is a dynamic performance standard and it evolves as our knowledge of urban runoff control measures increases. The WLAs are expressed as effluent limits[33]. Since some of the compliance dates for the TMDLs are outside this permit term, the Permittees are required to monitor and report effectiveness of their BMPs with respect to pollutant reduction goal(s) as one measure of progress towards attainment of WLAs in accordance with the compliance schedules specified in the TMDL implementation plans.

Deleted: Numeric effluent limits are included for de-minimus types of discharges from Permittee owned and/or operated facilities and activities and for total dissolved solids and total inorganic nitrogen for dry weather discharges.

M. **Water Quality Control Plan (Basin Plan)**

1. The Regional Board adopted a revised Water Quality Control Plan for the Santa Ana River Basin (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the Santa Ana Region addressed through the Plan.
2. More recently, the Basin Plan was amended significantly to incorporate revised boundaries for groundwater sub-basins, now termed “management zones”, new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters. This Basin Plan Amendment was adopted by the Regional Water Board on January 22, 2004. The State Water Resources Control Board (State Water Board) and Office of Administrative Law (OAL) approved the Amendment on September 30, 2004 and December 23, 2004, respectively. The U.S. Environmental Protection Agency approved the surface water standard and related provisions of the amendment on June 20, 2007. This Order includes TDS/TIN limits for direct dry weather discharges into surface waters within the permitted area based on the objectives specified in Table 4-1 of the Basin Plan, as amended. Storm water was considered to be an insignificant source for nitrogen/TDS in groundwater. These amendments were all incorporated into and updated in a single revised basin plan in February 2008.
3. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic water supply. Beneficial uses recognized in the Basin Plan for surface waters in the permitted area are as follows:

a. Municipal and Domestic Supply,
b. Agricultural Supply,
c. Industrial Service Supply,
d. Industrial Process Supply,
e. Groundwater Recharge,
f. Hydropower Generation,
g. Water Contact Recreation,
h. Non-contact Water Recreation,
i. Warm Freshwater Habitat,
j. Limited Warm Freshwater Habitat,
k. Cold Freshwater Habitat,
l. Preservation of Biological Habitats of Special Significance,
m. Wildlife Habitat,
n. Rare, Threatened or Endangered Species, and
o. Spawning, Reproduction, and Development

The existing and potential beneficial uses of groundwater that could be impacted by the discharge of urban and storm water runoff within the permitted area include the following:

a. Municipal and Domestic Supply,
b. Agricultural Supply,
c. Industrial Service Supply, and
d. Industrial Process Supply

4. The Basin Plan also incorporates by reference all State Board water quality control plans and policies including the 1990 Water Quality Control Plan for Ocean Waters of California (Ocean Plan) and the 1974 Water Quality Control Policy for Enclosed Bays and Estuaries of California (Enclosed Bays and Estuaries Plan). This Order implements the Basin Plan and other statewide plans and policies incorporated into the Basin Plan.

N. **National Toxics Rule (NTR) and California Toxics Rule (CTR)**

Regional Board believes that compliance with water quality standards through implementation of best management practices is appropriate for regulating urban and storm water runoff. USEPA articulated this position on the use of BMPs in storm water permits in the policy memorandum entitled, "Interim Permitting Approach for Water Quality-Based Effluent Limitations In Storm Water Permits" (61 FR 43761, August 9, 1996).[34] NTR and CTR are blanket water quality criteria that apply to all surface water discharges. Water quality objectives specified in the Basin Plan are local numeric and narrative objectives that may be more stringent than the national or statewide water quality criteria.

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[34] See discussions on Wet Weather Flows in the Federal Register/Vol. 65, No. 97/Thursday, May 18, 2000/Rules and Regulations

O. **State Implementation Policy (SIP) (Not Applicable)**

See Section N., above.

P. **Compliance Schedules and Interim Requirements**

The Basin Plan contains schedules for achieving compliance with wasteload allocations for MSAR TMDLs and the BBLN TMDLs. This Order requires the Permittees within these watersheds to comply with those time schedules for various deliverables as specified in the approved implementation plans. Additionally, since the final TMDL compliance dates are outside the term of this permit, this Order also requires the Permitttees to monitor and report the effectiveness of BMPs implemented to evaluate progress towards attainment of TMDL WLAs by the time schedules specified in the implementation plans.

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Q. **Antidegradation Policy**

40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with the federal policy. The STATE BOARD established California's antidegradation policy in State Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharges are consistent with the antidegradation provisions of 40 CFR 131.12 and State Board Resolution No. 68-16.

R. **Anti-Backsliding**

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations of 40 CFR 122.44(*l*) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. Therefore this Order conforms with the anti-backsliding requirements of the CWA.

S. **Public Education/Participation**

1. Public participation during the development of urban runoff management programs and implementation plans is necessary to ensure that all stakeholder interests and all applicable control measures are considered. In addition, the storm water regulations require public participation in the development and implementation of the storm water management program. As such, the Permittees are required to solicit and consider all comments received from the public and submit copies of the comments to the Executive Officer of the Regional Board with the annual reports. In

response to public comments, the Permittees may modify reports, plans, or schedules prior to submittal to the Executive Officer.

2. Urban runoff contains pollutants from privately owned and operated facilities such as residences, businesses and commercial establishments and public and private institutions. A successful storm water management program should include the participation and cooperation of public entities, private businesses, and public and private institutions. The MSWMP recognizes public education as a critical element. As the population increases in the permitted area, it will be even more important to continue to educate the public regarding the impact of human activities on the quality of urban runoff.

3. In addition to the Regional Board, a number of other stakeholders are involved in the management of the water resources of the Region. These include, but are not limited to, the incorporated cities in the Region, Publicly Owned Treatment Works, the three counties, and the Santa Ana Watershed Project Authority and its member agencies. The entities listed in Appendix 2 are considered as potential dischargers of urban runoff in the permitted area. It is expected that these entities will also work cooperatively with the Permittees to manage urban runoff. The Regional Board, pursuant to 40 CFR 122.26(a), has the discretion and authority to require non-cooperating entities to participate in this Order or to issue individual storm water permits.

4. Cooperation and coordination among the stakeholders (regulators, Permittees, the public, and other entities) are critical to optimize the use of finite public resources and to ensure economical management of water quality in the Region. Recognizing this fact, this Order focuses on watershed management and seeks to integrate the programs of the stakeholders, especially the holders of the three MS4 permits within the Santa Ana Watershed.

5. Public education is an important aspect of every effective urban runoff management program and can promote changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that municipal employees understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions affect receiving water quality and how adverse effects can be minimized.

6. Some urban runoff issues, such as general education and training, can be effectively addressed on a regional basis. Regional approaches to urban runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs. In particular, the counties of San Bernardino, Riverside and Orange and the municipalities within these counties are encouraged to cooperatively work together and generate a unified education and training program.

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T. **Monitoring and Reporting**

1. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements.

2. An effective monitoring program characterizes urban runoff, identifies problem areas, and determines the impact of urban runoff on receiving waters and the effectiveness of BMPs. The Principal Permittee administers and conducts the storm water monitoring program for the Permittees. The third-term Permit includes only wet weather monitoring of MS4 outfalls and receiving waters.

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3. The Regional Board and the Permittees recognize the importance of watershed management initiatives and regional planning and coordination in the development and implementation of programs and policies related to water quality protection, including urban runoff and TMDL programs. A number of such efforts are underway where the Permittees are active participants, including the Storm Water Quality Standards Task Force and the Santa Ana River Reach 3 Bacteria TMDL Workgroup. This Order encourages continued participation in such programs. Furthermore, this Order recognizes that some of these planning efforts may result in significant changes to the Basin Plan. If this occurs, the Regional Board may reopen the permit to modify applicable terms and conditions through a public hearing process. In addition, the Regional Board also recognizes that in certain cases it may be necessary and appropriate to fund regional water quality monitoring programs by reallocating funds from lower priority local monitoring programs. The Executive Officer is authorized to approve, after public notification and consideration of all comments received, changes to the watershed management initiatives, regional planning and coordination activities and regional monitoring programs. If the Executive Officer receives any significant comments during the public notification process that cannot be resolved, it shall be scheduled for a public hearing during a regularly scheduled Board meeting. In light of adopted TMDLs and TMDLs that are expected to be adopted in the near future, this Order requires the Permittees to develop an Integrated Watershed Monitoring Plan that would show the nexus between various urban run-off related monitoring programs, TMDLs and program effectiveness assessments. The Monitoring and Reporting Program is provided in Attachment 5.

4. Under the auspices of the Stormwater Monitoring Coalition, Southern California Coastal Water Research Project prepared "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California", August 2004 Technical Report No. 419. This report indicated that "...the lack of mass emissions stations in the inland counties hampers their ability to estimate the proportional contribution of these inland areas to cumulative loads downstream." The coalition consists of representatives from the Counties of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego and the City of Long Beach. An integrated Watershed Monitoring Plan should address any shortcomings in the overall monitoring programs and avoid duplicative efforts within the same watershed.

5. Under the Storm Water Monitoring Coalition, the Southern California Coastal Water Research Project is coordinating a Regional Bioassessmen Monitoring effort. This Order requires the Permittees to continue their participation in this regional effort.

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U. **Standard and Special Provisions**

Standard Provisions, reporting requirements, and notifications which apply to all NPDES permits in accordance with Federal NPDES Regulation 40 CFR122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment 8. The discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

V. **Notification of Interested Parties**

The Regional Board has notified the dischargers and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

W. **Consideration of Public Comment**

The Regional Board has notified the Permittees, all known interested parties, and the public of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and the requirements of this Order.

X. **Alaska Rule**

On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 FR 24641, April 27, 2000). Under the revised regulation (also known as the Alaska rule), USEPA must approve new and revised standards submitted to USEPA after May 30, 2000 before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

Y. **Compliance with CZARA**

The Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), Section 6217(g), requires coastal states with approved coastal zone management programs to address non-point source pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This Order addresses the management measures required for the urban category, with the exception of septic systems. Compliance with requirements specified in this Order relieves the Permittees of developing a non-point

source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.

Z. **Stringency Requirements for Individual Pollutants (Not Applicable)**

PERMIT REQUIREMENTS:

IT IS HEREBY ORDERED that the Permittees, in Order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act, as amended, and the regulations and guidelines adopted thereunder, shall comply with the following:

III. PERMITTEE RESPONSIBILITIES

A. Responsibilities of the Principal Permittee:

1. The Principal Permittee shall be responsible for managing the overall storm water program and shall:
   a. Conduct chemical, biological, bacteriological water quality and other monitoring as required by this Order and any additional monitoring directed by the Executive Officer.
   b. Prepare and submit to the Executive Officer of the Regional Board, unified reports, plans, and programs necessary to comply with this Order.
   c. Coordinate and conduct Management Committee meetings as specified in the MSWMP.
   d. Coordinate permit activities and participate in any subcommittees formed as necessary, to coordinate compliance activities with this Order.
   e. Provide technical and administrative support and inform the Co-Permittees of the progress of other pertinent municipal programs, pilot projects, research studies, and other information to facilitate implementation of Co-Permittees' storm water program.
   f. Coordinate the implementation of area-wide storm water quality management activities such as monitoring program, public education, pollution prevention, etc.
   g. Gather and disseminate information on the progress of statewide municipal storm water programs and evaluate the information for potential use in the execution of this Order.
   h. Monitor the implementation of the plans and programs required by this Order and determine their effectiveness in attaining water quality standards.
   i. Coordinate with the Regional Board on activities pertaining to implementation of this Order, including the submittal of all reports, plans, and programs as required under this Order.

j. Develop and implement mechanisms, performance standards, design standards, etc., and assist in the consistent implementation of BMPs to the maximum extent practicable among the Permittees.

k. Cooperate in watershed management programs and regional and/or statewide monitoring programs.

l. Solicit and coordinate public input for any proposed major changes to areawide storm water management programs (MSWMP) and implementation plans.

m. In collaboration with the Co-Permittees, develop guidelines for defining expertise and competencies of storm water program managers and inspectors and develop and submit for approval a training program for various positions in accordance with these guidelines

n. Within 18 months of permit adoption, the Principal Permittee shall coordinate a review of areawide documents with the Co-Permittees to determine the need for update or revisions and establish a schedule for those revisions. These documents include but are not limited to the Enforcement Consistency Guide, the Municipal Activities Pollution Prevention Strategy, Water Quality Management Plan Guidance and Template, BMP brochures and other areawide documents.

o. Within 6 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees, shall develop and submit an areawide model Local Implementation Plan (LIP) to the Executive Officer. The submitted model LIP shall be deemed acceptable to the Regional Board if the Executive Officer raises no written objections within 30 days of submittal. The model LIP should describe: each program element per the MSWMP; the departments and personnel responsible for its implementation; applicable standard operating procedures, plans, policies, checklists, and drainage area maps; and tools and resources needed for its implementation. The model LIP should establish internal and external reporting and notification requirements to ensure accountability and consistency. The model LIP should also describe the mechanisms, procedures, and/or programs whereby the Permittees' individual LIPs will be coordinated through the WAP.

2. In addition, the activities of the Principal Permittee shall include but not be limited to the following for MS4 systems owned or operated by the Principal Permittee:

a. Within 18 months of adoption of this Order, the Principal Permittee shall develop and implement a Principal Permittee-specific LIP, based on the areawide model LIP. A copy of the LIP, signed by the Chair of the Board of Directors for the Principal Permittee, shall be submitted to the Executive Officer within 18 months of the adoption of this Order.

b. Take appropriate enforcement actions necessary to ensure compliance with Water Quality Management Plans, ordinances, implementation plans, and other applicable plans and policies.

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Deleted: Review and approve Water Quality Management Plans or other post-construction management plans prior to accepting discharges into its MS4 systems.

d. Inspect, clean, and maintain the MS4 systems within its jurisdiction, consistent with the MEP standard.

e. Review and revise, if necessary, policies and ordinances necessary to establish and maintain adequate legal authority, as required by the federal storm water laws and regulations.

f. Respond to or arrange for responding to emergency situations such as accidental spills, leaks, illicit connections/illegal discharges, etc., to prevent or to reduce the discharge of pollutants to storm drain systems and waters of the U.S.

g. Track, monitor, and keep training records of all personnel involved in the implementation of the Principal Permittee's LIP.

h. Implement management programs, monitoring programs, and related plans as required by this Order.

i. Solicit and coordinate public input for any proposed major changes to its local storm water management program and implementation plans.

B. Responsibilities of the Co-Permittees

1. Within 18 months of adoption of this Order, each Permittee shall develop and implement an LIP for its jurisdiction. The LIP shall describe the Permittee's legal authority, its ordinances, policies and standard operating procedures; identify departments and personnel for each task and needed tools and resources. The LIP shall establish internal departmental coordination and reporting requirements to ensure accountability and consistency. Within 18 months from the adoption of this Order, each Co-Permittee shall adopt a Permittee-specific LIP, based on the areawide model LIP. The LIP shall have the approval of the Permittee's City Manager or County Supervisor prior to its implementation and shall be updated on an as needed basis. A copy of the each Permittee's approved LIP shall be submitted to the Executive Officer within 18 months of the adoption of this Order.

2. Each Co-Permittee shall be responsible for managing the storm water program within its jurisdiction and shall:

   a. Implement all applicable program elements including but not limited to the management programs, monitoring programs, implementation plans and appropriate BMPs outlined in the MSWMP and the LIP within each respective jurisdiction, and take such other actions as may be necessary to meet the maximum extent practicable (MEP) standard.

   b. Review and revise policies and ordinances necessary to establish and maintain adequate legal authority as stated in Section VI.1 of this Order and as required by the federal storm water regulations, 40CFR, Part 122.26(d)(2)(i)(A-F).

   c. Obtain public input for any proposed major changes to its storm water management program and implementation plans.

   d. Conduct storm drain system inspections, cleaning, and maintenance in accordance with the uniform criteria developed by the Management Committee.

e. Maintain up-to-date GIS-based MS4 facility maps. Annually review these maps and if necessary submit revised maps to the Principal Permittee for integration with the HCOC mapping and with the information required for preparation of the Annual Report.

f. Prepare and submit to the Principal Permittee in a timely manner all required information necessary to develop a unified Annual Report for submittal to the Executive Officer of the Regional Board.

3. The Co-Permittees' activities shall include, but not be limited to, the following:

b. Designate at least one representative to the Management Committee and attend at least 7 out of the 8 Management Committee meetings per year. The Principal Permittee shall be notified immediately, in writing, of any changes to the designated representative to the Management Committee.

c. Conduct and/or coordinate with the Principal Permittee any surveys and characterizations needed to identify pollutant sources from specific drainage areas.

d. Review and comment on all plans, strategies, management programs, monitoring programs, as developed by the Management Committee, the Principal Permittee or any subcommittee to comply with this Order.

e. Participate in committees or subcommittees formed to address storm water related issues to comply with this Order.

f. Respond to or arrange for responding to emergency situations such as accidental spills, leaks, illegal discharges/illicit connections, etc. to prevent or reduce the discharge of pollutants to storm drain systems and waters of the U.S.

g. Pursue enforcement actions as necessary within its jurisdiction for violations of storm water ordinances, prohibitions on illicit connections and illegal discharges, and other elements of its storm water management program.

h. Track, monitor, and keep training records of all personnel involved in the implementation of its LIP.

i. Track and monitor operation and maintenance of post-construction BMPs installed in areas within each Permittee's jurisdiction.

C. Implementation Agreement

As needed, the Permittees shall evaluate the storm water management structure and the Implementation Agreement and determine the need for any revision. The annual report shall include the finding of any such review and provide a schedule if revisions are planned. The Implementation Agreement shall be reviewed and revised, if necessary, to include any cities that were not signatories to this agreement or other non-traditional entities that own or operate conveyance systems within the permitted area. If the Implementation Agreement is revised, a copy of the signature page and any revisions to the Agreement shall be included in the annual report.

IV. DISCHARGE PROHIBITIONS

A. In accordance with the requirements of 40 CFR 122.26(d)(2)(i)B) and 40 CFR 122.26(d)(2)(i)(F), the Permittees shall prohibit illegal connections and illicit discharges (non-storm water) from entering municipal separate storm sewer systems unless such discharges are either authorized by a NPDES permit, or not prohibited in accordance with Section V, below.

B. The discharge of urban runoff from Permittees' municipal separate storm sewer systems, containing pollutants, including trash and debris, that have not been reduced to the maximum extent practicable, to waters of the U. S., is prohibited.

C. The Permittees shall effectively prohibit the discharge of non-storm water into the MS4s unless authorized by a separate NPDES permit, granted a waiver or as otherwise specified in Section V, below.

D. Non-storm water discharges from Permittee activities into waters of the U.S. are prohibited unless the non-storm water discharges are permitted by a NPDES permit, granted a waiver, or are as otherwise specified in Section V, below.

E. Discharges from the MS4s shall be in compliance with the discharge prohibitions contained in Chapter 5 of the Basin Plan.

F. Discharges into and from the MS4s in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance, as that term is defined in Section 13050 of the Water Code, into waters of the State are prohibited.

G. The discharge to waters of the U.S., of any substances in concentrations toxic to animal or plant life is prohibited.

H. The discharge to waters of the U.S., of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

Deleted: containing pollutants, including trash and debris, that have not been reduced to the maximum extent practicable

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Deleted: <#>The disposal of pollutants[95] onto public or private land is prohibited. . ¶

V. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

For purposes of this Order, a discharge may include storm water or other types of discharges identified below.

A. **Authorized Discharges:**

The discharges identified below need not be prohibited by the Permittees except if identified by the Permittees or the Executive Officer as a significant source of pollutants or as a significant vehicle that may cause pollutants to migrate to waters of the U.S. The MSWMP shall include public education and outreach activities directed at reducing these discharges even if they are not substantial contributors of pollutants to the MS4s and/or the receiving waters.

1. Discharges composed entirely of storm water;

2. Air conditioning condensate;
3. Irrigation water (See Section C., Nonpoint Source Discharges, below);
4. Passive foundation drains[36];
5. Passive footing drains[37];
6. Water from crawl space pumps[38];
7. Non-commercial vehicle washing, ,e.g. residential car washing (excluding engine degreasing) and car washing for fundraisers by non-profit organizations[39];
8. Dechlorinated swimming pool discharges (cleaning wastewater and filter backwash shall not be discharged into the MS4s or to waters of the U.S.)
9. Diverted stream flows[40];
10. Rising ground waters and natural springs[41];
11. Uncontaminated ground water infiltration as defined in 40 CFR 35.2005 (20) and uncontaminated pumped groundwater,
12. Flows from riparian habitats and wetlands;
13. Emergency fire fighting flows (i.e., flows necessary for the protection of life and property do not require BMPs and need not be prohibited. However, appropriate BMPs to reduce the discharge of pollutants consistent with the MEP standard must be implemented when they do not interfere with health and safety issues.
14. Waters not otherwise containing wastes as defined in California Water Code Section 13050 (d), and
15. Other types of discharges identified and recommended by the Permittees and approved by the Regional Board.
16. When types of discharges listed above are identified as a significant source of pollutants or a significant vehicle that may cause pollutants to migrate to the receiving waters, a Permittee must either: prohibit the discharge category from entering the MS4 or ensure that "Source Control BMPs" and Treatment Control are implemented to reduce or eliminate pollutants resulting from the discharge. The Permittees must evaluate the authorized discharges, as listed above to determine if any are a significant

[36] The discharge is allowed only if the source water drained from the foundation is stormwater or uncontaminated groundwater. Discharges from contaminated groundwater may require coverage under the General Groundwater Cleanup Permit (Order No. R8-2007-0008, NPDES Permit No CAG918001) or its latest version.
[37] Only uncontaminated discharge is allowed. Otherwise, coverage under Order No. R8-2007-0008 may be required.
[38] The discharge is allowed only if it is uncontaminated; otherwise permit coverage under the General Permit for Discharges from Utility Vaults and Underground Structures, Water Quality Order No. 2006-0008-DWQ (NPDES No. CAG990002) may be required.
[39] Charity car washes should be limited to bona-fide 501 agencies.
[40] Diversion of stream flows that encroach into waters of the U.S. requires a 404 permit from the U.S. Army Corps of Engineers and a 401 Water Quality Certification from the Regional Board. Stream diversion that requires active pumping may also require coverage under the De Minimus Permit, Order No. R8-2009-0003.
[41] Discharge of rising ground water and natural springs into surface water is only allowed if the groundwater is uncontaminated. Otherwise, coverage under Order No. R8-2007-0008 may be required.

source of pollutants to the MS4 and notify the Executive Officer if any are a significant source of pollutants to the MS4.

B. **Discharge Specifications/De-Minimus Discharges from Permittee Owned and/or Operated Facilities/Activities:**

The Permittees shall prohibit non-storm water discharges (de minimus discharges) into waters of the U.S. from Permitttee-owned and/or operated facilities/activities unless specified in the Regional Board's General De Minimus Permit for Discharges to Surface Waters, Order No. R8-2009-0003, NPDES No. CAG 998001. Any de minimus types of discharges listed in the General De Minimus Permit shall be in compliance with Order No. R8-2009-0003.

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6. Table 4-1 of the Basin Plan incorporates TDS/TIN[46] limits for direct discharges into surface waters in specified management zones within the Santa Ana Region. Permittees discharging to those receiving waters shall comply with the following for dry weather conditions.
   a. For discharges to surface waters, where groundwater will not be affected by the discharge, the maximum daily concentration (in mg/L) for TDS and/or TIN of the discharge shall not exceed the water quality objectives for the receiving surface water where the effluent is discharged, as specified in Table 4-1 of the Basin Plan.
   b. For discharges to surface waters, where the groundwater will be affected by the discharge, the TDS and/or TIN concentrations of the effluent shall not exceed the water quality objectives for the surface water where the effluent is discharged and the affected groundwater management zone, as specified in Table 4-1 of the Basin Plan. The more restrictive water quality objectives shall govern. However, treated effluent exceeding the groundwater management zone water quality objectives may be returned to the same management zone from which it was extracted without reduction of the TDS or TIN concentrations so long as the concentrations of those constituents are no greater than when the groundwater was first extracted. Incidental increases in the TDS and TIN concentrations (such as may occur during air stripping) of treated effluent will not be considered

[46] TDS/TIN=Total dissolved solids/total inorganic nitrogen.

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Deleted: the Regional Board's General De Minimus Permit for Discharges to Surface Waters,

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Deleted: Discharges from potable water sources, including water line flushing, superchlorinated water line flushing; discharges resulting from the maintenance of potable water supply pipelines, tanks, reservoirs, etc.; discharges from potable water supply systems resulting from initial system startup, routine startup, sampling activities, system failures, pressure release, etc.; fire hydrant system testing or flushing; and hydrostatic test water: Planned discharges shall be dechlorinated to a concentration of 0.1 ppm[42] or less, pH adjusted if necessary, and volumetrically and velocity controlled to prevent hydrologic conditions of concern in receiving waters.

Deleted: Discharges from lawn, greenbelt and median watering and other irrigation runoff[43] from non-agricultural operations: These discharges shall be minimized through public education and water conservation efforts. Also see Section X.E, Residential Program.

Deleted: Dechlorinated swimming pool discharges: Dechlorinated to a concentration of 0.1 ppm[44] or less, pH adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent hydrologic condition of concern in receiving waters. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4s or to waters of the U.S.

Deleted: Construction dewatering wastes[45]: The following limits shall be met at approved monitoring locations. The maximum daily concentration limit for total suspended solids shall not exceed 75 mg/l, sulfides 0.4 mg/l, oil and grease15 mg/l, total petroleum hydrocarbons 0.1 mg/l; the pH of the discharge shall be within 6.5 to 8.5 pH units and there shall be no visible oil and grease in the discharge.

Deleted: Discharges from facilities that extract, treat and discharge water diverted from waters of the U.S.: These discharges shall meet the following conditions: (1) The ... [1]

as increases for the purposes of determining compliance with this discharge specification.

7. The Regional Board may add categories of non-storm water discharges that are not significant sources of pollutants or remove categories of non-storm water discharges listed above based upon a finding that the discharges are a significant source of pollutants.
8. See Section XV for additional requirements for de-minimus types of discharges.

C. **Non-point Source (NPS) Discharges:**

Consistent with the State Water Resources Control Board's 2004 "Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program," the Regional Board may issue Waste Discharge Requirements for non-point source (NPS) pollutant discharges, such as agricultural irrigation runoff or return flows that are not subject to NPDES requirements, if identified as a significant source of pollutants. In addition, if the water quality significance of NPS discharges is not clearly understood, the Regional Board may issue conditional waivers of Waste Discharge Requirements to NPS dischargers, and require monitoring to gather the information necessary to effectively manage these discharges.

D. **Water Quality Based Effluent Limitations - Total Maximum Daily Loads (TMDLs)**

1. **Middle Santa River (MSAR) Watershed Bacteria Indicator TMDL**

a. In order to protect REC1 beneficial uses and comply with the MSAR Watershed Bacterial Indicator TMDL, the MS4 Permittees in or discharging to the impaired waterbodies named in the TMDL shall develop and implement BMPs designed to reduce pathogen indicator bacteria contamination from controllable sources to the maximum extent practicable.

b. The MS4 Permittees must prepare and submit a TMDL Implementation Plan to the Regional Board for review and must execute the plan upon approval by the Board. The TMDL Implementation Plan must include:

i. An Urban Source Evaluation Plan that describes the methods and approach the MS4 Permittees intend to use to identify and prioritize the most significant sources of bacterial contamination to the impaired waterbodies named in the TMDL.

ii. An Urban Source Reduction Plan that describes the BMPs the MS4 Permittees intend to implement to reduce the controllable sources of bacterial contamination within their jurisdiction to the maximum extent practicable. The Urban Source Reduction Plan must provide a detailed technical justification to support the MS4's belief that the selected BMPs will be adequately effective to achieve the TMDL targets.

iii. A Water Quality Assessment Plan that describes the methods and procedures the MS4 Permittees intend to use to evaluate the effectiveness of their program at reducing controllable sources of bacterial pollution within

Deleted: Waste Load allocations: The MS4 Permittees in the MSAR watershed (County, Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, and Rialto) shall comply with the following MSAR Watershed Bacterial Indicator TMDL waste load allocation (WLA):

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their jurisdiction to the maximum extent practicable. All results from the long-term water quality monitoring effort must be reported annually to the Regional Board's Executive Officer.

c. If results from the long-term water quality monitoring program indicate that water quality objectives are not being achieved despite the implementation of BMPs in accordance with the Urban Source Reduction Plan, then MS4 Permittees must revise the plan to include more effective BMPs or show that the residual bacterial loads are uncontrollable or originate outside the jurisdiction of the MS4s, or demonstrate that no additional practicable BMPs are available. As before, the revised Plan must be submitted to the Regional Board for review and implemented upon approval by the Board.

d. Failure to submit or implement the required Plans on time is inconsistent with the MS4's obligation to reduce controllable sources of pollution within their jurisdiction to the maximum extent practicable and shall be deemed a violation of this Order.**:**

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e. The Regional Board reserves the right to reopen the permit to add numeric effluent limits if the iterative BMP approach proves inadequate to meet the urban wasteload allocation for pathogen indicator bacteria.

2. **Big Bear Lake Nutrient TMDL for Dry Hydrological Conditions**

a. The City of Big Bear Lake, the County of San Bernardino and San Bernardino County Flood Control District shall develop and implement BMPs designed to reduce phosphorus loads to the maximum extent practicable during dry hydrological conditions (as defined by the Big Bear Lake Nutrient TMDL).

b. The Wasteload Allocation for Total Phosphorus from Urban Sources is 475 lbs/yr during dry hydrological conditions and must be met no later than December 31, 2015.

Deleted: <#>Dry Weather Conditions (April 1 through October 31): Compliance shall be achieved as soon as possible, but no later than December 31, 2015[47].¶ <#>*Fecal Coliform WLA*[48] ¶ <#>5–sample/30–day logarithmic mean less than 180 organisms/100mL, and not more than 10% of the samples exceed 360 organisms/100mL for any 30–day period. ¶ <#>*E. Coli WLA*¶ <#>5–sample/30–day logarithmic mean less than 113 organisms/100mL, and not more than 10% of the samples exceed 212 organisms/100mL for any 30–d ... [2]

Deleted: On June 14, 2007, the TMDL taskforce members submitted a source evaluation and a monitoring plan. The Regional Board app ... [3]

Deleted: By February 15, 2010, the Permittees shall revise the MSWMP to incorporate a plan and a schedule to achieve necessary triennial ... [4]

Deleted: The MS4 Permittees within the MSAR watershed shall track and annually report their progress towards compliance (pre-compliance ... [5]

Deleted: If triennial bacterial source reduction goals at the specified monitoring locations are not met, the Permittees within the affected ... [6]

Deleted: Each Permittee (or the TMDL taskforce) upstream of the urban source monitoring points shall evaluate and characterize disch ... [7]

Deleted: Each Permittee (or the TMDL taskforce) shall submit a report to the Executive Officer with proposed actions that describes BMPs th ... [8]

Deleted: The report may be incorporated in the annual report unless the Executive Officer directs a different submittal date. In the ... [9]

Deleted: Watershed-wide Monitoring Program: The

Deleted: Permittees shall continue to participate in the watershed-wide monitoring program until the TMDL numeric targets identified in S ... [10]

Deleted: The City of Big Bear Lake,

Deleted: the County of San Bernardino and San Bernardino County Flood Control District shall meet the following urban WLA ... [11]

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Deleted: TMDL for Dry Hydrological Conditions does not require nutrient reductions from external watershed sources, hence, the City of Bi ... [12]

c. Previous water quality monitoring and modeling indicates that the MS4 Permittees are already meeting the Urban Wasteload Allocation for Total Phosphorus. Therefore, no further nutrient reduction are required from external urban sources and this Order does not impose numeric effluent limitations for phosphorus.

d. The MS4 Permittees are required to develop and implement a Water Quality Monitoring Plan for the Big Bear Lake watershed to demonstrate on-going compliance with the relevant urban wasteload allocation for phosphorus.

e. The MS4 Permittees are also required to develop and implement mitigation measures, during dry hydrological conditions, designed to reduce nutrient loads from in-lake sediments where such loads originated from controllable urban sources. The MS4 permittees must prepare and submit a Lake Management Plan describing the intended mitigation measures, the scientific basis demonstrating the effectiveness of the mitigation measures, and the proposed implementation schedule. The mitigation measures must be implemented upon approval of the Lake Management Plan by the Regional Board.

f. If results from the in-lake water quality monitoring program indicate that water quality objectives are not being achieved despite implementation of approved mitigation measures, then the MS4 Permittees must revise the Lake Management Plan to include additional mitigation measures or demonstrate that no additional practicable control strategies are available. As before, the revised Plan must be submitted to the Regional Board for review and implemented upon approval by the Board.

g. Failure to submit or implement the required Plans on time is inconsistent with the MS4's obligation to reduce controllable sources of phosphorus within their jurisdiction to the maximum extent practicable and shall be deemed a violation of this Order.

h. The Regional Board reserves the right to reopen the permit to add numeric effluent limits if the iterative BMP approach proves inadequate to meet the urban wasteload allocation for phosphorus during dry hydrologic conditions.

3. **Knickerbocker Creek Sole Source Pathogen Investigation and Control**

a. The City of Big Bear Lake shall continue to participate in and implement the January 2008 Phase 2 Monitoring and Reporting Program in accordance with the agreed sampling locations, parameters, schedule, and protocol.

b. At the completion of the Phase 2 monitoring program, the City of Big Bear Lake shall review results of the pathogen investigation and submit a final report to the

Deleted: The Permittees in the Big Bear Lake watershed, in collaboration with the

Deleted: Big Bear Lake Nutrient TMDL Taskforce, shall implement the approved (Regional Board Resolution No. R8-2008-0070) Big Bear Lake In-lake Nutrient Monitoring Plan dated November 30, 2007.

Deleted: The Permittees in the Big Bear Lake watershed, in collaboration with the

Deleted: Big Bear Lake Nutrient TMDL Taskforce, shall implement the approved (Regional Board Resolution No. R8-2009-0043) Big Bear Lake Watershed-wide Nutrient Monitoring Plan (May 2009) in accordance with the schedules specified in Resolution No. R8-2009-0043.

Deleted: The Permittees in the Big Bear Lake watershed, in collaboration with the Big Bear Lake Nutrient TMDL Taskforce, shall implement the lake management plan upon approval by the Regional Board.

Deleted: The Permittees are currently meeting the calculated Waste Load Allocation (WLA) for Total Phosphorus. No reduction from external sources is required in the TMDL for dry weather conditions. This Order requires the County and the City of Big Bear Lake to monitor continued compliance with the WLA so as not to exceed this level of loading into the Lake.

Deleted: An iterative approach is appropriate to demonstrate compliance with the phosphorus WLA in drainage areas tributary to Big Bear Lake.

Deleted: Compliance with the phosphorus WLA will be evaluated through the use of a watershed model. The Permittees in the Big Bear Lake watershed or the Big Bear Lake Nutrient TMDL Taskforce, shall provide the results of the first model update by February 15, 2011, and every three years thereafter.

Deleted: <#>If watershed monitoring shows exceedances of the phosphorus WLA, despite implementation of the lake management plan and the MSWMP and other requirements of this Order, the Permittees within the affected drainage areas shall comply with the following procedure:¶
<#>Each Permittee[55] upstream of the WLA monitoring points shall evaluate and characterize discharges from its significant outfall locations. ¶
<#>The Permittees[56] shall sub... [13]

Executive Officer summarizing the data including an evaluation of the efficacy of the control measures implemented in reducing bacteria in Knickerbocker Creek.

c. The City of Big Bear Lake shall annually review and revise, if necessary, the control measures implemented and undertake an iterative approach until water quality objectives within Knickerbocker Creek are attained, unless it can be demonstrated that the pathogen sources are from uncontrollable sources.

d. The City of Big Bear Lake shall continue to work with Regional Board staff and the Storm Water Quality Standards Task Force to review and update designated uses and related water quality objectives for Knickerbocker Creek. This may result in different water quality objectives for bacteria.

4. **Big Bear Lake Mercury TMDL**

a. Pending adoption of a Mercury TMDL, the City of Big Bear Lake shall participate in the development and implementation of monitoring programs and erosion control measures, including any BMPs that the City is currently implementing or proposing to implement. The City shall classify as high priority sites all construction sites that are adjacent to (within 200 feet) or discharging directly to Big Bear Lake. The same classification should apply to construction sites that are tributary to tributary surface waterbodies listed for sediments or turbidity. These high priority sites shall specify low impact development techniques, source control, site design, pollution prevention and structural treatment control BMPs to control sediment discharges to the Lake and its tributaries.

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Deleted: <#>Pending adoption of the Mercury TMDL, the City of Big Bear Lake shall participate in the development and implementation of monitoring programs and control measures, including any BMPs that the City is currently implementing or proposing to implement. The City shall classify as high priority sites all construction sites that are adjacent to (within 200 feet) or discharging directly to Big Bear Lake. The same classification should apply to construction sites that are tributary to tributary surface waterbodies listed for sediments or turbidity. These high priority sites shall specify low impact development techniques, source control, site design, pollution prevention and structural treatment control BMPs to control sediment discharges to the Lake and its tributaries. ¶
<#>The City of Big Bear Lake shall undertake the BMP iterative approach until a TMDL waste load allocation for urban runoff is adopted for mercury and the City has met its mercury WLAs. ¶

VI. RECEIVING WATER LIMITATIONS

A. Discharges from the MS4s shall not cause or contribute to exceedances of receiving water quality standards (designated beneficial uses and water quality objectives) contained in Chapter 4 of the Basin Plan, and amendments thereto, for surface or groundwater.

B. The MSWMP and its components, including LIPs shall be designed to achieve compliance with receiving water limitations consistent with the MEP standard. It is expected that compliance with receiving water limitations will be achieved through an iterative process and the application of increasingly more effective BMPs.

C. The Permittees shall comply with Section VI.A of this Order through timely implementation of control measures and other actions to reduce pollutants in urban and storm water runoff in accordance with the MSWMP and its components and other requirements of this Order, including any modifications thereto.

D. Upon a determination by either the Permittees or the Executive Officer that the discharges from the MS4 systems are causing or contributing to an exceedance of an applicable water quality standard, the Permittees shall promptly notify either by phone or by e-mail and, thereafter submit a report within 30 days (or if approved by the Executive Officer, this report may be incorporated into the annual report) to the Executive Officer for review and approval. At a minimum, the report shall:

a. Describe BMPs that are currently being implemented and additional BMPs that

will be implemented to prevent or reduce those pollutants that are causing or contributing to the exceedance of water quality standards.

b. Address the cause of the impairment or exceedance, and the technical and economic feasibility of control actions available to the Permittees to reduce or eliminate the impairment or exceedance consistent with the MEP standard.

c. Include an implementation schedule.

d. Contain a comparative analysis of monitoring data to the USEPA Multi-Sector Permit Parameter Benchmark Values and applicable water quality objectives for inland surface streams as specified in Chapter 4 of the Basin Plan.

e. A status report on the effectiveness of the pollution source investigation and control plan implementation to address exceedance of water quality objectives or elevated pollutant levels above benchmark values may be incorporated in the annual report unless the Executive Officer directs a different submittal date. The transmittal letter shall indicate that the annual report contains a description of additional BMPs proposed, pollution investigation report, and/or pollution source investigation and control plan.

E. The Executive Officer may require modifications to the plan and/or report. The Permittees shall submit any modifications required by the Executive Officer within 30 calendar days of notification;

F. Within 60 calendar days following the Executive Officer's approval of the plan and/or report described above, the Permittees shall revise the storm water management programs (MSWMP and LIP) and monitoring program to incorporate the additional BMPs that will be implemented, the implementation schedule, and any additional monitoring required;

G. Permittees must implement the revised the MSWMP, the LIP and the monitoring and reporting programs in accordance with the schedule approved by the Executive Officer.

H. So long as the Permittees have complied with the procedures set forth above and are implementing the revised storm water management programs, the Permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless the Executive Officer determines it is necessary to develop additional BMPs.

I. Nothing in Section VI.H must prevent the Regional Board from enforcing any provision of this Order while the Permittee prepares and implements the above programs.

VII. LEGAL AUTHORITY/ENFORCEMENT

A. The Permittees shall maintain adequate legal authority to control the discharge of pollutants to their MS4s through ordinance, statute, permit, contract or similar means and enforce these authorities. This legal authority must, at a minimum, include and authorize the Permittees to:

1. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits. The Permittee must

have authority to enter, sample, monitor, inspect, take measurements, photographs, videos, review and copy records, and require reports from industrial, commercial, and construction sites discharging into their MS4s;

2. Recover its cost to correct a discharger's significant non-compliance or to respond to immediate and serious threat to water quality violations through various mechanisms, such as forfeiture of permit deposits, trust funds/bonds or other short-term funding sources to allow Permittees to immediately address and remedy serious water quality violations at construction, industrial, or commercial sites.
3. Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s;
4. Require documentation on the effectiveness of BMPs implemented to reduce the discharge of pollutants to the MS4s;
5. The Permittees' storm water ordinances or other local regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include but are not limited to: verbal and/or written warnings, notice of violation or non-compliance, monetary penalties, non-monetary penalties, bonding requirements, stop work or cease and desist Orders and/or permit denials/revocations/stays for non-compliance, civil or criminal prosecution. These sanctions shall be issued in a decisive manner within a predetermined timeframe, from the time of the violation's occurrence and/or follow-up inspection.

B. The Permittees shall document progressive and decisive enforcement actions against violators of their storm water codes and ordinances in accordance with the formalized enforcement procedures developed by the Management Committee.

C. The Permittees shall use the most effective tool(s) at their disposal (such as Stop Work Orders and suspended inspections) to achieve immediate compliance. Permittees must have the ability to enforce any violations of the Stop Work Order through either an automatic fine or other effective means.

D. Within three (4) years of adoption of this Order, the Permittees shall implement fully adopted ordinances that would specify control measures for known pathogen or bacterial sources such as animal wastes if those types of sources are present within their jurisdiction.

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E. The Permittees shall continue to provide notification to Regional Board staff of storm water related information obtained during site inspections of industrial and construction sites regulated by the Statewide General Storm Water Permits or sites which should be regulated under the State's General Permits. The notification should include any observed violations of the General Permits or local requirements, prior history of violations, any enforcement actions taken and will be taken by the Permittees, and any other relevant information.

F. The Permittees shall annually notify owners of other MS4 systems outside the Permittees' jurisdiction, regarding the regulatory requirements for control of pollutants in MS4 discharges (including relevant requirements from the MSWMP and WQMP), where feasible, and consistent with the MEP standard. The Permittees will also send these notifications to the Regional Board.

Deleted: specify in the LIP the requirements to be implemented through interagency agreements, other mechanisms or procedures to control the contribution of pollutants into their MS4s prior to accepting connections from

G. The Permittees shall annually review their water quality ordinances and evaluate their effectiveness in prohibiting the following types of discharges to the MS4s (the Permittees may propose appropriate control measures in lieu of prohibiting these discharges, where the Permittees are responsible for ensuring that dischargers adequately maintain those control measures):

1. Sewage (also prohibited under the Statewide SSO Order[60]);
2. Wash water resulting from the hosing or cleaning of gas stations, auto repair garages, and other types of automobile service stations;
3. Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility, including motor vehicles, concrete mixing equipment, portable toilet servicing, etc.;
4. Wash water from mobile auto detailing and washing, steam and pressure cleaning, carpet/upholstery cleaning, pool cleaning and other such mobile commercial and industrial activities;
5. Water from cleaning of municipal, industrial, and commercial sites, including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
6. Runoff from material storage areas or uncovered receptacles that contain chemicals, fuels, grease, oil, or other hazardous materials[61];
7. Discharges of runoff from the washing of toxic materials[62] from paved or unpaved areas;
8. Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; pool filter backwash containing debris and chlorine;
9. Pet waste, yard waste, litter, debris, sediment, etc.; and,
10. Restaurant or food processing facility wastes such as grease, floor mat and trash bin wash water, food waste, etc.

H. The Permittees shall include in the Local Implementation Plan (LIP) their legal authorities and mechanisms to implement the various program elements required by this Order to properly manage, reduce and mitigate potential pollutant sources within each Permittee's jurisdiction. The LIP shall include citations of appropriate local ordinances, identification of departmental jurisdictions and key personnel in the implementation and enforcement of these ordinances. The LIP shall include procedures, tools and timeframes for progressive enforcement actions and procedures for tracking compliance.

I. The Permittees shall enforce their ordinances and permits at all construction sites, industrial facilities and commercial facilities as necessary to maintain compliance with this Order. Sanctions for non-compliance shall include: monetary penalties, bonding requirements and/or permit denial or revocation.

[60] State Board WQO No. 2006-0003.
[61] See Attachment 4, Glossary, for definition of hazardous material.
[62] Toxic material is a chemical or a mixture that may present an unreasonable risk of injury to health or the environment.

Deleted: Hazardous material is defined as any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by EPA to be reported if a designed quantity of the material is spilled into the waters of the United States or emitted into the environment.

J. Within one year of the adoption of this Order, each Permittee shall submit a certification statement in its annual report, signed by legal counsel, that the Permittee has obtained all necessary legal authority in accordance with 40 CFR 122.26(d)(2)(i)(A-F) and to comply with this Order through adoption of ordinances and/or municipal code modifications. A copy of the certification shall also be placed in the LIP. Those Permittees who have already complied with this requirement during the third term permit need not submit additional certification statements.

K. Annually thereafter, Permittees shall review adequacy of their ordinances, implementation and enforcement response procedures with respect to the above items. The findings of the reviews, along with supporting details and recommended corrective actions and schedules shall be submitted as part of the annual report for the corresponding reporting period. The LIP shall be updated accordingly.

VIII. ILLICIT DISCHARGES (ID)/ILLEGAL CONNECTIONS (IC); LITTER, DEBRIS AND TRASH CONTROL

A. The Permittees shall continue to prohibit all illegal connections to the MS4s through their ordinances, inspections, monitoring programs, and enforcement actions. The Permittees shall develop a pro-active IC/ID or illicit discharge detection and elimination program (IDDE) using the Guidance Manual for Illicit Discharge, Detection, and Elimination by the Center for Watershed Protection[63] or any other equivalent program. If routine inspections, IDDE program or dry weather screening and/or monitoring indicates any illegal connections, they shall be investigated and eliminated or permitted within 120 days of discovery and identification.

B. The Permittees' IDDE program shall specify a plan for each jurisdiction to conduct focused, systematic field investigations, outfall reconnaissance survey, indicator monitoring, and tracking of discharges to their sources[64]. The IDDE programs shall be linked to urban watershed protection efforts including: a) the use of GIS maps of the Permittees' conveyance systems to track sources ; b) aerial photography to detect IC/IDs; b) municipal inspection programs of construction, industrial, commercial, storm drain systems, municipal facilities, etc.; c) analysis of watershed monitoring and other indicator data; d) watershed education to educate the public about illegal discharges; e) pollution prevention for generating sites; f) stream restoration efforts/opportunities; and g) rapid assessment of stream corridors to identify dry weather flows and illegal dumping.

C. The LIP shall identify the staff positions responsible for different components of the IDDE program.

D. The Permittees shall maintain a database of permitted and unpermitted connections, routine inspections and dry weather monitoring. This information shall be updated on an ongoing basis and submitted with the annual report.

[63] USEPA (Illicit Discharge Detection and Elimination - A Guidance Manual for Program Development and Technical Assessments) by the Center for Watershed Protection and Robert Pitt, University of Alabama, October 2004, updated 2005).
[64] Table 2: Land uses, Generating Sites and Activities that Produce Indirect Discharges from IDDE, A Guidance Manual for Program Development and Technical Assessments, October 2004 CWP.

E. The Permittees shall control, consistent with the maximum extent practicable standard, the discharge of spills, leaks, or dumping of any materials other than storm water and authorized non-storm water per Section V, above, into the MS4s. All reports of spills, leaks, and/or illegal dumping shall be promptly investigated and reported as specified under Section XVI (Notification Requirements).

F. The Permittees shall continue to characterize trash, determine its main source(s) and develop and implement appropriate BMPs and control measures to reduce and/or to eliminate the discharge of trash and debris to waters of the U.S. to the maximum extent practicable. These control measures and their effectiveness in reducing trash shall be reported in the annual report.

IX. SEWAGE SPILLS, INFILTRATION INTO MS4 SYSTEMS FROM LEAKING SANITARY SEWER LINES, SEPTIC SYSTEM FAILURES, AND PORTABLE TOILET DISCHARGES

A. The Permittees shall provide local sanitation districts 24-hour access to the MS4s to address sewage spills and shall provide updated contact information to enable such access. The Permittees shall work cooperatively with the local sewering agencies to determine and control the impact of infiltration from leaking sanitary sewer systems on storm water quality. Each Permittee shall implement control measures necessary to minimize infiltration of seepage from sanitary sewers to the storm drain systems through routine preventive maintenance of the storm drain system.

B. Permittees who are regulated under the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ, (SSO Order), shall continue to comply with that Order to control sanitary system overflows.

C. The Principal Permittee shall collaborate with the local sewering agencies to review and revise, as needed, the Sanitary Sewer Overflow Unified Response Plan to ensure its consistency with the SSO Order.

D. The interagency or interdepartmental sewer spill response coordination and responsibility within each Permittee's jurisdiction shall be described in the LIP.

E. The Permittees shall implement management measures and procedures to prevent, respond to, contain and clean up all sewage and other spills that may be discharged into their MS4s. Management and/or preventative measures shall also be implemented for sources including portable toilets and failing septic systems that are causing or contributing to urban and storm water runoff pollution problems in their jurisdictions.

F. Within 2 years of adoption of this Order, Permittees with septic systems in their jurisdiction shall develop an inventory of septic systems within its jurisdiction and establish a program to ensure that failure rates are minimized pending adoption of regulations as per Assembly Bill 885[65] regarding onsite waste water treatment systems.

[65] http://www.waterboards.ca.gov/water_issues/programs/septic_tanks/

X. MUNICIPAL INSPECTION PROGRAMS

A. GENERAL REQUIREMENTS

1. The Permittees shall continue to maintain and update the inventory of all construction, industrial and commercial facilities within their jurisdiction that have a reasonable potential to discharge pollutants to the MS4 regardless of whether the sites are subject to the California Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities or the California Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities or other individual NPDES permit or Waste Discharge Requirements. The Permittees may use the MS4 Solution Database, or equivalent database for this purpose (see X.A.2., below).

2. The Permittees shall conduct regular inspections of construction sites, industrial and commercial facilities to evaluate compliance with applicable municipal ordinances, local permits, Storm Water Management Plans, and Water Quality Management Plans (see Sections B, C, and D, below for frequency of inspections). Inspections shall review pollution control practices, implementation and maintenance of pollution control measures, material handling and waste disposal practices, spill prevention and response programs and owner/operator knowledge of environmental laws and regulations, including local ordinances. The Permittees shall enforce their ordinances and permits at all construction, industrial, and commercial facilities in a fair, firm and consistent manner. The municipal inspection inventory shall be maintained in an electronic database. The database system must include relevant information on ownership, Standard Industrial Classification (SIC) codes, General Permit Waste Discharge Identification (WDID) number (if any), size, Geographic Information System (GIS) data in NAD83/WGS84[66] compatible formatting with latitude/longitude in decimal degrees, and other pertinent details describing the nature of activities at the site. The information shall be maintained in the MS4 Solution Database, or equivalent internet accessible database. In addition to the facility information, the inspection information shall include: date of inspection; inspectors and facility personnel present; site conditions, any observed non-compliance; enforcement actions and/or corrective actions required and schedules for corrective actions; and date of full compliance. The database shall be updated at least once each year and an electronic copy provided to the Regional Board with each annual report.

3. Within 18 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees shall develop a risk-based scoring system to prioritize construction, industrial and commercial facilities and to determine the frequency of inspections. The scoring system shall consider factors including, but not limited to: the hazardous nature of materials used on site; potential for erosion and pollutant discharges, particularly such materials as pre-production plastic (nurdles) or pollutants for which the receiving water is impaired; site size and location including proximity to receiving water, history of spills and leaks; use of pollution control and

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[66] NAD83/WGS84=North American Datum of 1983 and World Geodetic System of 1984 are systems to define three dimensional coordinates of a single physical point.

prevention measures; and compliance history. The risk-based scoring system shall include a criterion to identify the facilities as high, medium or low risk and shall be submitted to the Executive Officer for approval. The electronic database submitted with the annual report (see X.A.2, above) shall include the risk-based scores for each facility. The facility scores must be reviewed and updated annually, if necessary.

4. Prior to development and implementation of the risk-based scoring system, construction, industrial and commercial sites shall be inspected in accordance with the prioritization scheme set forth in the third term permit.

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5. Any site found in significant non-compliance with the Statewide General Permits or the MS4 Permit is deemed a high priority site and must be contacted or inspected at least once per month until full compliance is achieved.

6. The Permittees shall verify during inspections and/or prior to local permit issuance whether a site has obtained necessary permit coverage under one or more of the Statewide General Permits, an individual NPDES permit, Waste Discharge Requirements, and/or 401 Certification. Local permits, certificates of occupancy, or other approvals shall not be granted until proof of coverage under the applicable statewide permit is verified.

7. The Permittees shall deem facilities operating without a proper permit to be in significant non-compliance. Appropriate enforcement measures shall be implemented including a time schedule to obtain coverage, or suspension of business license until evidence of permit coverage is provided. Non-filers shall be reported within 14 calendar days to the Regional Board by electronic mail or other written means. The Permittees shall include in their LIP the method for verification of permit coverage and for notification of non-filers to the Regional Board.

8. Permittees shall maintain hard or electronic copies and make available upon request all information related to their inspections, including inspection reports, photographs, videotapes, enforcement actions, notices of correction issued to dischargers and other relevant information. This information shall be linked to the electronic database identified in Section X.A.2 above.

9. The Permittees need not inspect facilities already inspected by Regional Board staff if the inspection was conducted within the specified time period. Regional Board staff inspection information is available at www.ciwqs.ca.gov[67].

10. Each Permittee shall respond to complaints received from third parties in a timely manner to ensure that the construction, industrial and commercial sites are not a source of pollutants in the MS4s and the receiving waters. Each Permittee shall implement a system of prioritizing the complaints based on threat to the environment (water quality/public health) and an appropriate response time based on this prioritization.

[67] To obtain access to the State database, registration at the following link is necessary: http://www.waterboards.ca.gov/water_issues/programs/ciwqs/chc_npdes.shtml. Contact information is available at http://www.waterboards.ca.gov/water_issues/programs/ciwqs/contactus.shtml.

11. Each Permittee shall document, evaluate and annually report the effectiveness of its enforcement procedures in achieving prompt and timely compliance. When timely compliance is not achieved, the Permittee shall take appropriate corrective measures to immediately prevent or abate the discharge of pollutants into its MS4 system.
12. Where storm water related inspections and/or enforcement required by this Order are carried out on behalf of the Permittee by other agencies or departments such as: the County Public Health, county and/or local fire departments, code enforcement, industrial pretreatment, building and safety, etc., the Permittee shall monitor and annually evaluate and report adequacy of such programs in complying with this Order.
13. All inspectors conducting storm water inspection as required in this Order shall be trained in accordance with the training requirements specified in Section XVI.

B. **CONSTRUCTION SITES**

1. Each Permittee shall include in the electronic database identified in Section X.A.2 an inventory of all construction sites within its jurisdiction for which building or grading permits are issued and activities at the site include: soil movement; uncovered storage of materials or wastes, such as dirt, sand or fertilizer; or exterior mixing of cementaceous products, such as concrete, mortar or stucco.
2. Prior to approval of the risk-based scoring and prioritization system, the Permittees shall continue to prioritize construction sites within its jurisdiction as a high, medium or low threat to water quality. This prioritization of construction sites shall be based on factors, which shall include but not be limited to: soil erosion potential, project size, proximity and sensitivity of receiving waters and any other relevant factors. At a minimum, high priority construction sites shall include: sites 50 acres and greater; sites over 1 acre that are tributary to Clean Water Act section 303(d) waters listed for sediment or turbidity impairments; site specific characteristics[68], and any other relevant factor. At a minimum medium priority construction sites shall include: sites between 10 to less than 50 acres of disturbed soil. Upon approval of the risk-based scoring system, the sites shall be categorized as high, medium or low risk based on the risk-scores.
3. Each Permittee shall conduct construction site inspections for compliance with its ordinances (grading, Water Quality Management Plans, etc.) and local permits (construction, grading, etc.). The Permittees shall develop a checklist for conducting site inspections. Inspections of construction sites shall include, but not be limited to:
   a. Verification of coverage under the General Construction Permit (Notice of Intent (NOI) or Waste Discharge Identification No.) during the initial inspection. Permit coverage shall also be confirmed in the event of a change in ownership.
   b. A review of the Erosion and Sediment Control Plans (ESCP) to ensure that the BMPs implemented on-site are consistent with the appropriate phase of

[68] The draft General Construction Permit includes risk-based characterization of construction sites based on site-specific conditions.

construction (Preliminary Stage, Mass Grading Stage, Streets and Utilities Stage, Vertical Construction Stage, and Post-Construction Stage).

c. Visual observations for non-storm water discharges, potential illicit connections, and potential pollutant sources.

d. Determination of compliance with local ordinances, permits, Water Quality Management Plans and other requirements, including the implementation and maintenance of BMPs required under local requirements.

e. An assessment of the effectiveness of BMPs implemented at the site and the need for any additional BMPs. In evaluating BMP effectiveness, the Permittees may consider applicable action levels (AL) and/or numeric effluent limits (NEL) promulgated by the State or USEPA.

4. At a minimum, the inspection frequency shall include the following:

a. During the wet season[69] (i.e., Oct 1 through April 15 of each year), all high priority (or high risk) sites are to be inspected, in their entirety, once a month. All medium priority (or medium risk) sites are to be inspected at least twice during the wet season. All low priority (or low risk) sites are to be inspected at least once during the wet season. When BMPs or BMP maintenance is deemed inadequate or out of compliance, an inspection frequency of once every week shall be maintained until BMPs and BMP maintenance are brought into compliance.

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b. During the dry season (i.e., June 1 through September 30 of each year), all construction sites shall be inspected at a frequency sufficient to ensure that sediment and other pollutants are properly controlled and that unauthorized, non-storm water discharges are prevented.

5. The Permittees' implementation of their construction storm water program shall be consistent with the latest version of the statewide General Construction Permit and all applicable provisions of the federal effluent limitations guidelines.

C. **INDUSTRIAL FACILITIES**

1. Prior to approval of the risk-based scoring and prioritization system, the Permittees shall continue to prioritize industrial facilities within its jurisdiction as a high, medium or low threat to water quality. The prioritization of these facilities should be based on such factors as type of industrial activities (SIC codes)[70], materials or wastes used or stored outside, pollutant discharge potential, compliance history, facility size, proximity and sensitivity of receiving waters and any other relevant factors. At a minimum, a high priority shall be assigned to: facilities subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA); facilities that handle or generate pollutants for which the receiving water is impaired, facilities

[69] Wet and dry season for TMDL compliance evaluation will be the months as defined in the TMDL development documents and implementation plans. See Glossary, Attachment 4.
[70] Industrial Facilities, as defined at 40 CFR § 122.26(b)(14), including those subject to the General Industrial Permit or other individual NPDES permit;;

that have a demonstrated or significant potential to release pre-production plastic or nurdles into the environment, and facilities with a high potential for or history of unauthorized, non-storm water discharges. Upon approval of the risk-based scoring system, the facilities shall be categorized as high, medium or low risk.

2. Each Permittee shall conduct industrial facility inspections for compliance with its ordinances, permits and this Order. Industrial inspections shall include a review of the site's material and waste handling and storage practices, written documentation of pollutant control BMP implementation and maintenance procedures, digital photographic documentation of water quality violations, as well as evidence of past or present unauthorized, non-storm water discharges and enforcement actions issued at the time of inspection. A summary of inspections shall be included in the annual report and shall document the rational for downgrading or upgrading the priority ranking of industrial facilities.
3. All high priority (or high risk) industrial facilities are to be inspected at least once a year; all medium priority (or medium risk) sites are to be inspected at least once every two years; and all low priority (or low risk) sites are to be inspected at least once per permit cycle. In the event that inappropriate material or waste handling or storage practices are observed, or there is evidence of past or present unauthorized, non-storm water discharges, appropriate enforcement actions shall be taken and a re-inspection frequency adequate to bring the site into full compliance must be maintained.
4. Each Permittee shall require industrial facilities to implement source control and pollution prevention measures consistent with the BMP Fact Sheets developed by the Permittees.

D. **COMMERCIAL FACILITIES**

1. All of the following types of commercial facilities are deemed to have a reasonable potential to discharge pollutants to the MS4s. These types of facilities shall be included in the database identified in Section X.A.2. Commercial facilities may include, but may not be limited to[71]:

   a. Transport, storage or transfer of pre-production plastic pellets;
   b. Automobile mechanical repair, maintenance, fueling or cleaning;
   c. Automobile and other vehicle body repair or painting;
   d. Automobile impound and storage services;
   e. Airplane repair, maintenance, fueling or cleaning;
   f. Marinas and boat repair, maintenance, fueling or cleaning;
   g. Equipment repair, maintenance, fueling or cleaning;
   h. Pest control service facilities;
   i. Eating or drinking establishments, including food markets and restaurants;
   j. Cement mixing, concrete cutting, masonry facilities;
   k. Building materials retailers and storage facilities;
   l. Portable sanitary service facilities;

[71]Mobile cleaning services are addressed in X.D.6 and 7, below.

m. Painting and coating;
n. Animal facilities such as petting zoos and boarding and training facilities;
o. Nurseries, greenhouses, botanical or zoological gardens;
p. Landscape and hardscape installation;
q. Pool, lake and fountain cleaning; and
r. Golf courses, parks and other recreational areas/facilities;

2. The Permittees shall continue to develop BMPs applicable for each of the commercial operations described above.

3. Prior to approval of the risk-based scoring system, each Permittee shall conduct inspections of its commercial facilities in accordance with the prioritization scheme set forth in the third term permit.

4. All high priority (or high risk) facilities shall be inspected at least once per year; all medium priority (or medium risk) facilities shall be inspected at least every two years; and all low priority (or low risk) facilities shall be inspected at least once per permit cycle. At a minimum, each facility shall be required to implement source control and pollution prevention measures consistent with the BMP Fact Sheets developed by the Permittees.

5. In the event that inappropriate material or waste handling or storage practices are observed, or there is evidence of past or present unauthorized, non-storm water discharges, appropriate enforcement action shall be taken and documented to bring the site into compliance.

6. Within 36 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees, shall notify all mobile businesses operating within the Permit area regarding the minimum source control and pollution prevention measures that they must develop and implement. For purposes of this Order, mobile businesses include: mobile auto washing/detailing; equipment washing/cleaning; carpet, drape, furniture cleaning; and mobile high pressure or steam cleaning. The mobile businesses shall be required to implement appropriate control measures within 3 months of being notified of the requirements.

7. Within 36 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees, shall develop an enforcement strategy to address mobile businesses. Each Permittee shall also distribute BMP Fact Sheets to the mobile businesses identified for notification as required in Section X.B.6, above. At a minimum, the mobile business Fact Sheets should include: laws and regulations dealing with urban runoff and discharges to storm drains; appropriate BMPs and proper procedure for disposing of wastes generated from each mobile business.

8. The Principal Permittee shall continue to maintain a restaurant inspection program, or coordinate and collaborate with the San Bernardino County Public Health Agency's restaurant inspection program. The restaurant inspection program shall, at a minimum, address:

Deleted: within its jurisdiction based on the following criteria: 10% of commercial facilities (not including restaurants/food markets) must be ranked 'high' and these represent the greatest threat to water quality[72]; 40% of commercial facilities (not including restaurants/food markets) must be ranked 'medium'; and, the remainder may be ranked 'low'

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a. Oil and grease disposal to verify that these wastes are not poured into a trash bin, storm sewers, parking lot, street or adjacent catch basin;

b. Trash bin areas to verify that these areas are clean, the bin lids are closed, and the bins are not used for disposing of liquid wastes;

c. Parking lot, alley, sidewalk and street areas to verify that floor mats, filters and garbage containers are not washed in those areas and that no wash water is disposed of into those areas;

d. Parking lots to verify that they are cleaned by sweeping, not by hosing down, and that the facility operator uses dry methods for spill cleanup; and,

e. Inspection of existing devices designed to separate grease from wastewater (e.g., grease traps or interceptors) to ensure adequate capacity and proper maintenance is currently performed under the Fats, Oils and Grease (FOG) program (the FOG inspections conducted under the Statewide SSO Order [Water Quality Order No. 2006-0003] could be substituted for this inspection).

9. All violations of the Water Quality Ordinance shall be enforced by the Permittees and all violations of the Health and Safety Code should be enforced by the Public Health Agency.

E. RESIDENTIAL PROGRAM

1. Within 36 months of adoption of this Order, each Permittee shall develop and implement a residential program to reduce the discharge of pollutants from residential facilities to the MS4s consistent with the maximum extent practicable standard so as to prevent discharges from the MS4s from causing or contributing to a violation of water quality standards in the receiving waters.

2. The Permittees shall identify residential areas and activities that are potential sources of pollutants and develop Fact Sheets/BMPs. At a minimum, this should include: residential auto washing and maintenance activities; use and disposal of pesticides, herbicides, fertilizers and household cleaners; and collection and disposal of pet wastes. The Permittees shall encourage residents to implement pollution prevention measures. The Permittees should work with sub-watershed groups to disseminate latest research information from organizations such as the Inland Empire Resource Conservation District[73], The Land Trust Alliance, The USDA Natural Resources Conservation Service, USDA's Backyard Conservation Program[74]., etc.

3. Each Permittee shall document its residential program in its LIP.

4. The Permittees shall continue to, collectively or individually, facilitate the proper collection and management of used oil, toxic and hazardous materials, and other

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[73] The District provides gardening and horticulture information appropriate for the area including native plant selection, backyard management, alternatives to pesticide, irrigation scheduling and composting.
[74] Backyard Conservation, Bringing Conservation from the Countryside to Your Backyard, USDA Natural Resources Conservation Service, National Association of Conservation Districts, Wildlife Habitat Council and National Audubon Society.

household wastes. Such facilitation shall include educational activities, public information activities, and establishment of curbside or special collection sites managed by the Permittees or private entities, such as solid waste haulers. Each Permittee shall continue and periodically evaluate the effectiveness of these related programs in reducing discharges of pollutants into the MS4s.

5. The Permittees shall develop and implement control measures for common interest areas and areas managed by homeowner associations or management companies. This may include development and promotion of public education materials identifying BMPs for these common interest areas or HOA areas. The Permittees should evaluate the applicability of programs such as the Landscape Performance Certification Program[75] to encourage efficient water use and to minimize runoff[76].
6. The Permittees shall enforce their Water Quality Ordinance for all residential areas and activities. The Permittees should encourage new developments to use weather-based evapotranspiration (ET) irrigation controllers[77].
7. Each Permittee shall include an evaluation of its Residential Program in the annual report starting with the first annual report after adoption of this Order.

XI. NEW DEVELOPMENT (INCLUDING SIGNIFICANT RE-DEVELOPMENT)

A. General Requirements:

1. Each Permittee shall continue to ensure (prior to issuance of any local permits or other approvals) that all non-Permittee construction sites that are one acre or greater, and sites less than one acre if part of a common plan of development, have filed with the State Board a Notice of Intent for coverage under the State's General Construction Permit and have been issued a valid Waste Discharge Identification (WDID) number. Each Permittee shall describe its General Permit coverage verification procedures in its LIP.
2. Each Permittee shall ensure that the erosion and sediment control plans it approves include appropriate erosion and sediment control BMPs (e.g., erosion control measures for sloped or hill-side developments, ingress/egress controls, perimeter controls, run-on diversion, etc.) such that an effective combination of BMPs consistent with site risk is implemented through all phases of construction.
3. Each Permittee shall utilize the BMP studies conducted during the previous permit terms to determine the most appropriate erosion and sediment control BMPs. The conditions of approval shall require erosion and sediment control plans, SWPPPs, and WQMPs, as applicable. These documents shall specify the appropriate BMPs.

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[75] For example, see the Metropolitan Water District of Orange County's Evaluation of the Landscape Performance Certification Program, January 2004.
[76] The Residential Runoff Reduction Study, Municipal Water District of Orange County, Irvine Ranch Water District and Metropolitan Water District of Southern California, July 2004.
[77] Westpark Study, Municipal Water District of Orange County, Irvine Ranch Water District and Metropolitan Water District of Southern California, 2001.

4. Each Permittee shall ensure, consistent with the maximum extent practicable standard, that runoff from development projects it approves, or runoff from its MS4s does not cause erosion or nuisance to adjacent or downstream properties and stream channels or allowed to flow onto private property unless appropriate easements and maintenance agreements have been approved.
5. The State Board and/or the Regional Board shall inform all State agencies, including the State School Superintendents/State Architect's office and Caltrans, that they are required to comply with all local jurisdiction's SUSMP and WQMP requirements for new development projects
6. Each Permittee shall notify any development projects that they become aware of, that are not regulated under this Order, but that will discharge into MS4s regulated under this Order, regarding the regulatory requirements for control of pollutants in MS4 discharges (including relevant requirements from the MSWMP and WQMP), where feasible, and consistent with the MEP standard. The Permittees will also send these notifications to the Regional Board.
7. Each Permittee shall ensure that appropriate control measures to reduce erosion and maintain stream geomorphology are included in the design for replacement of existing culverts or construction of new culverts and/or bridge crossings.
8. Each Permittee shall minimize the short and long-term adverse impacts on receiving water quality from public and private new development and significant re-development projects, as required in Section XI.D (Water Quality Management Plan), below, by continuing to review, approve, and verify implementation of project-specific WQMPs, encouraging implementation of LID principles, where feasible, and addressing hydrologic conditions of concern, and long term operation and maintenance mechanisms prior to project closure or issuance of certificates of occupancy.
9. Each Permittee shall participate in the development of the Watershed Action Plan, described in Section B below, to integrate water quality, stream protection and stormwater management and re-use within the permitted area with land use planning policies, ordinances, and plans, as applicable, and consistent with the MEP standard.

B. **Watershed Action Plan**

1. The Permittees shall develop an integrated watershed management approach to improve integration of planning and approval processes with water quality and quantity control priorities. Management of the water quality and hydrologic impacts of urbanization will be more effective, whether managed on a per site, sub-regional, or regional basis, if coordinated within the Watershed. Pending completion of a Watershed Action Plan, management of the impacts of urbanization shall be accomplished using existing programs.
2. Within twelve months of adoption of this Order, each Permittee shall review the watershed protection principles and policies, specifically addressing urban and storm water runoff, in its planning procedures, including CEQA preparation, review and approval processes; General Plan and related documents including, but not limited

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to its Development Standards, Zoning Codes, Conditions of Approval, Development Project Guidance; and WQMP development and approval processes.

3. The Principal Permittee, in collaboration with the Co-Permittees, shall develop a Watershed Action Plan (WAP) that describes and implements the Permittees' approach to coordinated watershed management. The WAP shall improve coordination of existing programs and identify new and/or enhanced program elements as applicable. The objective of the WAP is to improve integration of water quality, stream protection, storm water management, water conservation and re-use, and flood protection with land use planning and development processes. The WAP shall be developed in two phases:

   a. Phase 1: within 12 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees shall:

      i. Identify program-specific objectives for the WAP; the objectives will include consideration of:

         1. The watershed protection principles specified in Section XI.C.3.a – g, below;
         2. The Permittee's planning and procedure review required in XI.B.2, above;
         3. Potential impediments to implementing watershed protection principles during the planning and development processes, including but not limited to LID principles and management of the impacts of hydromodification;
         4. impaired waters [CWA § 303(d) listed] with and without approved TMDLs, pollutants causing impairment, monitoring programs for these pollutants, control measures, including any BMPs that the Permittees are currently implementing, and any BMPs the Permittees are proposing to implement. In addition, if a TMDL has been developed and an implementation plan is yet to be developed, the WAP shall specify that the responsible Permittees should develop constituent-specific source control measures, conduct additional monitoring and/or cooperate with the development of an implementation plan, where feasible, and consistent with the MEP standard.

      ii. Develop a structure for the WAP that emphasizes coordination of watershed priorities with the Permittees' LIPs via the areawide model LIP;

      iii. Identify linkages between the WAP and the SWQSTF, MSWMP, WQMP, the implementation of LID, and the TMDL Implementation Plans;

      iv. Identify other relevant existing watershed efforts (Chino Basin Master Plan, SAWPA's IRWMP, etc., and their role in the WAP;

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v. Ensure that the HCOC Map/Watershed Geodatabase is available to watershed stakeholders via the World Wide Web, and has incorporated the following information:

1. Delineation of existing unarmored or soft-armored drainages in the permitted area that are vulnerable to geomorphological changes due to hydromodification and those channels and streams that are engineered, hardened, and maintained.
2. GIS layers for known sensitive species, protected habitat areas, drainage boundaries, and potential storm water recharge areas and/or reservoirs;
3. 303(d)-listed waterbodies and associated pollutants;
4. Available and relevant regulatory and technical documents accessible via hyperlinks;

vi. Develop a schedule and procedure for maintaining the Watershed Geodatabase, and develop a draft schedule for expected enhancements to increase functionality;

vii. Review the Watershed Geodatabase with Regional Board staff from the Storm Water, TMDL, and Watershed Planning/401 Program Sections, and other resource agencies, to verify attributes of the Geodatabase, including drainage feature stability/susceptibility/risk assessments, and the intended use of the Geodatabase to support regulatory processes such as WQMP approvals, 401 Certifications, and LID BMP feasibility evaluations;

viii. Conduct a system-wide evaluation[78] to identify opportunities to retrofit existing storm water conveyance systems, parks, and other recreational areas with water quality protection measures, and develop recommendations for specific retrofit studies that incorporates opportunities for addressing applicable TMDL implementation plans, hydromodification management, and/or LID implementation within the permitted area.

ix. Invite participation and comments from resource conservation districts, water and utility agencies, state and federal agencies, non-governmental agencies and other interested parties in the development and use of the Watershed Geodatabase;

Submit the Phase 1 components in a report to the Executive Officer for approval. The submitted Report shall be deemed acceptable to the Regional Board if the Executive Officer raises no written objections within 30 days of submittal.

b. Phase 2: within 12 months of the approval by the Executive Officer of the Report from Phase 1, above, the Principal Permittee, in coordination with the Co-Permittees, shall:

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[78] For example, see the 2005 RBF Retrofit Study conducted for Orange County MS4 permittees.

i. Contingent upon consensus with Regional Board staff and other resource agencies as described in XI.B.3.a.vii, above, specify procedures and a schedule to integrate the use of the Watershed Geodatabase into the implementation of the MSWMP, WQMP, and TMDLs;

ii. Develop and implement a Hydromodification Monitoring Plan (HMP) to evaluate hydromodification impacts for the drainage channels deemed most susceptible to degradation. The HMP will identify sites to be monitored, include an assessment methodology, and required follow-up actions based on monitoring results. Where applicable, monitoring sites may be used to evaluate the effectiveness of BMPs in preventing or reducing impacts from hydromodification.

iii. Conduct training workshops in the use of the Watershed Geodatabase. Each Permittee must ensure that their planning and engineering staff attend a workshop.

iv. Conduct demonstration workshops for the Watershed Geodatabase to be attended by appropriate upper-level managers and directors from each Permittee.

v. Develop recommendations for streamlining regulatory agency approval of regional treatment control BMPs. The recommendations should include information needed to be submitted to the Regional Board for approval of regional treatment control BMPs. At a minimum, this information should include: BMP location; type and effectiveness in removing pollutants of concern; projects tributary to the regional treatment system; engineering design details; funding sources for construction, operation and maintenance; and parties responsible for monitoring effectiveness, operation and maintenance. The Permittees are encouraged to collaborate and work with other counties to facilitate and coordinate these recommendations.

vi. Implement applicable retrofit or regional treatment recommendations from the evaluation conducted in Section 3.a.viii, above.

vii. Submit the Phase 2 components in a report to the Executive Officer. The submitted report shall be deemed acceptable to the Regional Board if the Executive Officer raises no written objections within 30 days of submittal.

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<#>Identify impaired waters [CWA § 303(d) listed] with and without approved TMDLs, pollutants causing impairment, monitoring programs for these pollutants, control measures, including any BMPs that the Permittees are currently implementing, and any BMPs the Permittees are proposing to implement. In addition, if a TMDL has been developed and an implementation plan is yet to be developed, the Watershed Action Plan shall specify that the responsible Permittees should develop constituent specific source control measures, conduct additional monitoring and/or cooperate with the development of an implementation plan. ¶
Facilitate integrated planning for water quality/quantity that includes urban and storm water runoff management and stream channel and hydromodification controls by utilizing an overlay GIS map of the impaired waters [CWA § 303(d) listed], potential storm water recharge areas and/or reservoirs, vulnerable streams and hardened and engineered MS4s.

Deleted: Incorporate low impact development techniques, Smart Growth principles[79], New Urbanism[80], urban runoff capture, treatment, and re-use, water conservation principles in landscape choices and design, preservation of existing unarmored or soft-armored drainages and flood plains into new development and redevelopment plans.

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4. Within three years of adoption of this Order, each Permittee shall review the watershed protection principles and policies in its General Plan or related documents (such as Development Standards, Zoning Codes, Conditions of Approval, Development Project Guidance) to determine consistency with the WAP. Each Permittee shall report the findings in the annual report along with a schedule for any necessary revision.

C. **Consideration of Watershed Protection Principles in California Environmental Quality Act (CEQA) and Planning Processes**:

1.

2. The review required under XI.B.2, shall ensure that urban runoff issues and water quality considerations are properly considered and addressed in the WAP. The need for 401 certification for a project shall be identified early in the CEQA review to enable coordination with Regional Board 401 staff on the preliminary WQMP prior to City/County approval of the WQMP. The CEQA review and document preparation processes should be revised to consider the short and long term impacts of the project and shall specify measures that must be implemented to mitigate those impacts. If the mitigation measures require long term operation and maintenance monitoring, the CEQA document shall so specify or incorporate by reference where the information may be found. The following potential impacts shall be considered, where applicable, during the preparation of CEQA documents:

   a. Potential impact of project construction on storm water runoff.

   b. Potential impact of project's post-construction activity on storm water runoff.

   c. Potential for discharge of storm water pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.

   d. Potential for discharge of storm water to affect the beneficial uses of the receiving waters.

   e. Potential for significant changes in the flow velocity or volume of storm water runoff to cause environmental harm.

   f. Potential for significant increases in erosion of the project site or surrounding areas.

3. The Principal Permittee shall collaborate with the Co-Permittees to develop recommendations to resolve any impediments to implementing watershed protection principles during the planning and development processes. The Principal Permittee shall collaborate with the Co-Permittees, to develop common development standards, zoning codes, conditions of approval and other principles and policies

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Deleted: Specify monitoring requirements for hydromodification and water quality to evaluate the effectiveness of the control measures contained in the Watershed Action Plan.

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necessary for water quality protection. Any changes to the project approval procedures shall be reflected in the model LIP and each Permitee's LIP. The watershed protection principles and policies should include the following:

a. Limit disturbance of natural water bodies and drainage systems; conserve natural areas; protect slopes and channels; minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies;

b. Minimize changes in hydrology and pollutant loading; require incorporation of controls including structural and non-structural BMPs to mitigate any projected increases in pollutant loads and flows; ensure that post-development runoff rates and velocities from a site do not adversely impact downstream erosion, stream habitat; minimize the quantity of storm water directed to impermeable surfaces and the MS4s; maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground;

c. Preserve wetlands, riparian corridors, and buffer zones; establish reasonable limits on the clearing of vegetation from the project site;

d. Use properly designed and well maintained water quality wetlands, biofiltration swales, watershed-scale retrofits, etc., where such measures are likely to be effective and technically and economically feasible;

e. Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site; and

f. Establish development guidelines for areas particularly susceptible to erosion and sediment loss.

g. Consider pollutants of concern (identified in the risk-based analysis provided in the 2006 ROWD, the annual reports and the list of impaired waterbodies (303(d) list)) and propose appropriate control measures.

4. Within 24 months following the review specified in XI.B.2 above, each Permittee shall incorporate the following information into its LIP and its project approval process:

a. The Permittees shall identify and map in GIS format the natural channels, wetlands, riparian corridors and buffer zones and identify conservation and maintenance measures for these features. The Watershed Action Plan should include information needed for this effort. This requirement will be most effective if met through development of areawide HCOC maps or other joint efforts.

b. Each Permittee shall include the applicable tools (such as ordinances, design standards, and procedures) used it uses to implement green infrastructure/low impact development principles for public and private development projects.

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d. For hillside development projects, each Permittee shall consider and facilitate application of landform grading techniques[81] and revegetation as an alternative to traditional approaches, particularly in areas susceptible to erosion and sediment loss.

5. Each Permittee shall provide Regional Board staff with the draft amendment or revision when a General Plan or a pertinent General Plan element is noticed for comment in accordance with Govt. Code § 65350 et seq.

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D. Water Quality Management Plan (WQMP) Requirements[82]:

1. Each Permittee shall continue to require project-specific Water Quality Management Plans (WQMP) for priority projects listed under Section XI.D.4.a to j.
2. Within 12 moths of adoption of this Order, the Principal Permittee shall coordinate the revision of the WQMP Guidance and Template to include new elements required under this Order.
3. Each Permittee shall require submittal of a preliminary project-specific WQMP as early as possible during the environmental review or planning phase (land use entitlement). No building or grading permit shall be issued prior to approval of the final project–specific WQMP that is developed based on the preliminary project-specific WQMP, and any recommended revisions.

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4. The implementation of LID techniques (where feasible), site design, source control, and/or treatment control BMPs, including Regional treatment systems, in project-specific WQMPS shall address all identified pollutants and hydrologic conditions of concern from new development and/or significant re-development projects for the category of projects (priority projects) listed below:

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   a. All significant re-development projects. Significant re-development is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety. Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing developed site, and the existing development was not subject to WQMP requirements, the numeric sizing criteria discussed below applies only to the addition or replacement, and not to the entire developed site. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing developed site, the numeric sizing criteria applies to the entire development.
   b. New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential housing subdivisions (i.e., detached single family home subdivisions,

[81] http://www.epa.gov/region3/mtntop/pdf/Appendixes/Appendix%20D%20Aquatic/Aquatic%2OEcosystem%20Enhanc.%20Symp/Proceedings/Support%20Info/Schor/Landform.pdf

[82] Priority projects are those listed under Section XI.D.4.a to j.

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multi-family attached subdivisions or townhomes, condominiums, apartments, etc.), mixed-use, and public projects. This category includes development projects on public and private land, which fall under the planning and building authority of the Permittees.

c. Automotive repair shops (with SIC codes 5013, 5014, 5541, 7532-7534, 7536-7539).

d. Restaurants (with SIC code 5812) where the land area of development is 5,000 square feet or more.

e. All hillside developments of 5,000 square feet or more which are located on areas with known erosive soil conditions or where the natural slope is twenty-five percent or more.

f. Developments of 2,500 square feet of impervious surface or more adjacent to (within 200 feet) or discharging directly[83] into environmentally sensitive areas (ESAs) such as areas designated in the Ocean Plan as areas of special biological significance or waterbodies listed on the CWA Section 303(d) list of impaired waters.

g. Parking lots of 5,000 square feet or more exposed to storm water. Parking lot is defined as land area or facility for the temporary parking or storage of motor vehicles.

h.

i. Retail Gasoline Outlets (RGOs) that are either 5,000 sq feet or more, or has a projected average daily traffic of 100 or more vehicles per day.

j. Emergency public safety projects in any of the above-listed categories may be excluded if the delay caused due the requirement for a WQMP compromises public safety, public health and/or environmental protection.

Deleted: Street, roads, highways, and freeways[84] of 5,000 square feet or more of paved surface shall incorporate USEPA guidance, "Managing Wet Weather with Green Infrastructure: Green Streets" to the maximum extent practicable. This category includes any paved surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles and excludes any routine road maintenance activities where the footprint is not changed.

4. WQMPs shall include BMPs for source control, pollution prevention, site design, LID implementation, where feasible, (see Section E, below) and structural treatment control BMPs. WQMPs shall include control measures for any listed pollutant[85] to an impaired waterbody on the 303(d) list such that the discharge shall not cause or contribute to an exceedance of receiving water quality objectives. The permittees shall require the following source control BMPs for each priority development project, unless formally substantiated as unwarranted in a written submittal to the Permittee:

   a. Minimize contaminated runoff, including irrigation runoff, from entering the MS4s;

   b. Provide appropriate secondary containment and/or proper covers or lids for materials storage, trash bins, and outdoor processing and work areas;

   c. Minimize storm water contact with pollutant sources;

[83] Discharging directly means a drainage or conveyance which carries flows entirely from the subject development and not commingled with any other flows.
[85] For a waterbody listed under Section 303(d) of the Clean Water Act, the pollutant that is causing the impairment is the "listed pollutant.

d. Provide community car wash and equipment wash areas that discharge to sanitary sewers;

e. Minimize trash and debris in storm water runoff through regular street sweeping and through litter control ordinances.

f. The pollutants in post-development runoff shall be reduced using controls that utilize best management practices, as described in the California Storm Water Quality Handbooks, Caltrans Storm Water Quality Handbook or other reliable sources.

5. Treatment control BMPs shall be in accordance with the approved model WQMP and must be sized to comply with one of the following numeric sizing criteria:

a. VOLUME

Volume–based BMPs shall be designed to infiltrate, harvest and reuse, filter, or treat either:

i. The volume of runoff produced from a 24-hour, 85th percentile storm event, as determined from the County of San Bernardino's 85th Percentile Precipitation Isopluvial Map; or,

ii. The volume of annual runoff produced by the 85th percentile, 24-hour rainfall event determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998); or,

iii. The volume of annual runoff based on unit basin storage volume, to achieve 80 (or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/Commercial (1993); or,

iv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile, 24-hour runoff event;

OR

b. FLOW

Flow–based BMPs shall be designed to infiltrate, harvest and reuse, filter, or treat either:

i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or,

ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or,

iii. The maximum flow rate of runoff, as determined from the local historical rainfall record that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

5. The obligation to install structural BMPs at new development is met if, for a common plan of development, BMPs are constructed with the requisite capacity to serve the entire common project, even if certain phases of the common project may not have BMP capacity located on that phase in accordance with the requirements specified above. All treatment control BMPs should be located as close as possible to the pollutant sources, should not be located within waters of the U.S., and pollutant removal should be accomplished prior to discharge to waters of the U.S. Regional treatment control BMPs shall be completed and operational prior to occupation of any of the priority project sites tributary to the regional treatment BMP.

6. **Groundwater Protection**:

Treatment Control BMPs utilizing infiltration [exclusive of incidental infiltration and BMPs not designed to primarily function as infiltration devices (such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.)] must comply with the following: minimum requirements to protect groundwater:

a. Use of structural infiltration treatment BMPs shall not cause or contribute to an exceedance of groundwater water quality objectives.

b. Source control and pollution prevention control BMPs shall be implemented to protect groundwater quality. The need for sedimentation or filtration should be evaluated prior to infiltration.

c. Adequate pretreatment of runoff prior to infiltration shall be required in gas stations and large commercial parking lots.

d. Unless adequate pre-treatment of runoff is provided prior to infiltration, structural infiltration treatment BMPs must not be used for areas of industrial or light industrial activity[86]; areas subject to high vehicular traffic (25,000 or more daily traffic) automotive repair shops; car washes; fleet storage areas; nurseries; or any other high threat to water quality land uses or activities[87].

e. Structural infiltration treatment BMPs shall be located at least 100 feet horizontally from any water supply wells.

f. The vertical distance from the bottom of any infiltration structural treatment BMP to the historic high groundwater mark shall be at least 10 feet. Where the groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained.

g. Structural infiltration treatment BMPs shall not cause a nuisance or pollution as defined in Water Code Section 13050.

Deleted: <#>Within 24 months of adoption of this Order, the Principal Permittee shall develop recommendations for streamlining regulatory agency approval of regional treatment control BMPs. The recommendations should include information needed to be submitted to Regional Board for consideration of regional treatment control BMPs. At a minimum, it should include: BMP location; type and effectiveness in removing pollutants of concern; projects tributary to the regional treatment system; engineering design details; funding sources for construction, operation and maintenance; and parties responsible for monitoring effectiveness, operation and maintenance. The Permittees are encouraged to collaborate and work with other counties to facilitate and coordinate these recommendations.¶

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[86] Unless a site assessment pursuant to criteria developed in Section XI.F.2 shows that site operations do not pose a threat to ground water.

[87] This restriction applies only to sites that are known to have soil and/or groundwater contamination. Recent studies by the Los Angeles and San Gabriel Watershed Council of Storm Water Recharge has shown that there is no statistically significant degradation of groundwater quality from the infiltration of storm water-borne constituents.

E. Low Impact Development (LID) and Hydromodification Management to Minimize Impacts from New Development / Significant Redvelopment

1.

2. Within 12 months of adoption of this Order, each Permittee shall evaluate any potential barriers to implementing LID principles. This shall be done in conjunction with the requirements specified under Section XI.B.3. To facilitate implementation of LID BMPs, the Permittees should consider revising their ordinances, codes and building and landscape design standards. The Permittees shall promote green infrastructure/LID BMP implementation and identify the applicable LID principles in the project specific WQMP:

   a. Landscape designs that promote water retention and evapotranspiration such as 1 foot depth of compost/top soil in commercial and residential areas on top of 1 foot of decompacted subsoil, concave landscape grading to allow runoff from impervious surfaces, and water conservation by selecting native plants, weather-based irrigation controllers, etc.

   b. Allow permeable surface designs in low traffic roads and parking lots, where feasible. This may require land use/building code amendment.

   c. Allow natural drainage systems for street construction and catchments (with no drainage pipes) and allow grassy swales and ditches where feasible.

   d. Require parking lots to drain to landscaped areas to provide treatment, retention or infiltration, where feasible.

   e. Reduce curb requirements, where feasible, where adequate drainage, conveyance, treatment and storage are available.

   f. Amend, where feasible and practicable, land use/building codes to allow streets with no curbs and parking lots with no stop blocks to allow storm water to drain into landscaped areas.

   g. Require, where feasible, rainwater harvesting and reuse.

   h. Consider building narrow streets, alternatives to minimum parking requirements, etc.

   i. Consider vegetated landscape as an integral element of streets, parking lots, playground and buildings as a storm water treatment and retention system.

   j. Consider other site design BMPs identified in the WQMP Guidance and Template and not included above.

3.

4. To reduce pollutants in urban runoff, address hydromodification, and manage storm water as a resource to the maximum extent practicable, WQMPs shall specify

Deleted: The objective of LID is to mimic pre-development site hydrology through technically and economically feasible source control and site design techniques. LID combines hydrologically functional site design with pollution prevention methods to compensate for land development impact on hydrology and water quality.

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Deleted: Each Permittee shall update its landscape ordinance consistent with the requirements of AB 1881. The bill requires the local agencies to adopt the State Model Water Efficient Landscape Ordinance[88] or prepare one that is "at least as effective" as the State Model by January 2010. The proposed state model ordinance applies to landscape requiring a building or landscape permit, plan check or design review. The Permittees shall annually evaluate and report the effectiveness of their landscape ordinance with respect to water efficiency and conservation goals.

preferential use of site design BMPs that incorporate LID techniques, where feasible, in the following manner (from highest to the lowest priority): (1) Preventative measures (these are mostly non-structural measures, e.g., preservation of natural features to a level consistent with the maximum extent practicable standard; minimization of runoff through clustering, reducing impervious areas, etc.) and (2) Mitigative measures (these are structural measures, such as, infiltration, harvesting and reuse, bio-treatment, etc.). The mitigative or structural site design BMPs shall also be prioritized (from highest to lowest priority): (1) Infiltration BMPs (examples include permeable pavement with infiltration beds, dry wells, infiltration trenches, surface and sub-surface infiltration basins. All infiltration activities should be coordinated with the groundwater management agencies, such as the Inland Empire Utilities Agency, Water Districts, etc.; (2) BMPs that harvest and re-use (e.g., cisterns and rain barrels); and (3) Vegetated BMPs that promote evapotranspiration including bioretention, biofiltration and bio-treatment.

5. The Permittees shall reflect in the Water Quality Management Plan Guidance and Template and require each priority development project to infiltrate, harvest and re-use, evapotranspire, or bio-treat[89] the 85th percentile storm event ("design capture volume"), as specified in Section XI.D.5.a, above. Any portion of the design capture volume that is not infiltrated, harvested and re-used, evapotranspired or bio-treated[90] onsite by LID BMPs shall be treated and discharged in accordance with the requirements set forth in Section XI.E.8 and/or Section XI.F, below.

6. Within twelve months of adoption of this Order, the Permittees shall review and update the Water Quality Management Plan Guidance and Template to incorporate LID principles, where feasible, and to address the impact of urbanization on downstream hydrology. At a minimum, the following elements shall be included during the update:

   a. Site Design BMPs:

      i. Review and update the menu of site design BMPs to include any LID BMP that is currently not listed.

      ii. Include as a reference for design and installation of LID BMPs the *LID Guidance Manual for Southern California* developed by the Southern California Coastal Water Research Project upon its completion.

      iii. Techniques or specifications to minimize soil compaction in areas designated for site design BMPs, especially infiltration.

      iv. Review and update design, installation and test specifications for retention BMPs to prevent unwanted ponding.

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[89] A properly engineered and maintained bio-treatment system may be considered only if infiltration, harvesting and reuse and evapotranspiration cannot be feasibly implemented at a project site. Specific design, operation and maintenance criteria for bio-treatment systems shall be part of the model WQMP that will be produced by the permittees.

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[90] For all references to bio-treat/bio-treatment, see footnote 85.

v. Evaluate the use of a credit system[91] for using site design BMPs.

vi. Develop in lieu programs for projects where implementation of LID BMPs may not be feasible.

b. Source Control BMPs:

i. Review and update the menu of source control BMPs.

ii. Include design and installation standards for each structural source control BMP.

c. Treatment Control BMPs:

i. Update the list of treatment control BMPs, including an evaluation of their effectiveness based on national, statewide or regional studies.

ii. Prioritize treatment control BMPs based on their effectiveness in pollutant removal and require project proponents to select the most appropriate BMPs.

iii. Include design and installation standards for each treatment control BMP.

d. Hydrologic Conditions of Concern (HCOC*):*

i. The Permittees shall continue to ensure, consistent with the MEP standard, through their review and approval of project-specific WQMPs that new development and significant re-development projects:

a) do not pose a hydrologic condition of concern (HCOC), or,

b) otherwise demonstrate that the project does not have the potential to cause significant adverse impacts on downstream natural channels and habitat integrity, alone or in conjunction with the impacts of other projects likely to be implemented in the same drainage area.

ii. A development/redevelopment project does not cause a hydrologic condition of concern if it causes no adverse downstream impacts on the physical structure, aquatic, and riparian habitat and any of the following conditions is met:

a) The project disturbs less than one acre and is not part of a common plan of development.

b) The post-development site hydrology (including runoff volume, velocity, duration, time of concentration[92],) is not significantly different from pre-development hydrology for a 1, 2, and 5-year return frequency storms.

c) All downstream conveyance channels that will receive runoff from the project are engineered, hardened and regularly maintained to ensure design flow capacity, and no sensitive stream habitat areas will be affected. This exemption is only applicable to conveyance channels that have received

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Deleted: <#>Within 12 months of adoption of this Order the Principal Permittee shall establish a technically-based feasibility criteria for project evaluation to determine the feasibility of implementing LID. Collaboration with Orange County and Riverside County Permittees is encouraged in the development of these criteria.¶

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[91] See sample credit calculation in the draft statewide construction permit. http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/draft/draftconst_att_f.xls

[92] Time of concentration is defined as the time after the beginning of rainfall when all portions of the drainage basin are contributing simultaneously to flow at the outlet.

regulatory approvals prior to June 1, 2004, including CEQA review and approvals by US Army Corps of Engineers, Regional Board, and California Department of Fish and Game.

iii) Where flow reduction strategies are established as part of TMDL compliance plans, decreases in flow loading from pre-development conditions are allowed and encouraged where necessary to protect or restore designated beneficial uses.

iv) If a hydrologic condition of concern exists, and a Watershed Action Plan has not been approved, the WQMP shall specify one of the following:

a) Verify the project's potential to cause significant adverse impacts by conducting a further evaluation of the project's impact on stream geomorphology and/or aquatic habitat. If this evaluation confirms the project's potential to cause significant adverse impacts on downstream natural channels and habitat integrity, alone or in conjunction with impacts of other projects, then the project shall satisfy items b), c), d), e), or f), below. If the evaluation indicates minimal impact on stream channels and habitats, no further action is warranted.

b) Require additional onsite or offsite mitigation to address potential erosion or impacts on aquatic habitats by using LID BMPs, where feasible, or other control measures.

c) Require in-stream controls[93] to mitigate the impacts. The project proponent should first consider site design controls and on-site controls prior to proposing in-stream controls; in-stream controls must not adversely impact beneficial uses or result in sustained degradation of water quality of the receiving waters and shall require all necessary regulatory approval[94].

d) Mitigate the HCOC impact by requiring the project to have no more than 5% effective impervious area[95].

e) If site conditions do not permit items b), c), or d), above, the alternatives and in-lieu programs discussed under Section F, below, may be considered.

v) The WQMP shall specify methods for determining time of concentration.

e. A feasibility analysis that includes technically-based feasibility criteria for project evaluation to determine the feasibility of implementing LID.

1. The feasibility analysis shall include a groundwater protection assessment to determine if structural infiltration BMPs are appropriate for the site.

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[93] In-stream measures involve modifying the receiving stream channel slope and geometry so that the stream can convey the new flow regime without increasing the potential for erosion and aggradation. In-stream measures are intended to improve long-term channel stability and prevent erosion by reducing the erosive forces imposed on the channel boundary.

[94] In-stream control projects require a Streambed Alteration Agreement from the California Department of Fish & Game, a CWA section 404 permit from the U.S. Army Corps of Engineers, and a section 401 certification from the Water Board. Early discussions with these agencies on the acceptability of an in-stream modification are necessary to avoid project delays or redesign.

[95] ftp://ftp.sccwrp.org/pub/download/PDFs/450_peak_flow.pdf

f. Integrate Watershed Action Plan and TMDL Implementation Plans into project-specific WQMPs in affected watersheds.

7. Within 12 months of adoption of this Order, a copy of the updated Water Quality Management Plan Guidance and Template shall be submitted for review and approval by the Executive Officer. The Permittees shall implement the updated Water Quality Management Plan Guidance and Template within 90 days of approval. If the Executive Officer has not approved the Water Quality Management Plan Guidance and Template within 18 months of adoption of this Order, either the Permittees shall require implementation of LID BMPs, or determine infeasibility of LID BMPs for each project through a project-specific feasibility analysis each of which shall be submitted to the Executive Officer. Such feasibility determinations shall be certified by a Professional Civil Engineer registered in the State of California, and will be documented in the project WQMP, and shall be approved by the Permittee prior to submittal to the Executive Officer. Within 30 days of submittal to the Executive Officer, the Permittee will be notified if the Executive Officer intends to take any action. Once the updated WQMP Guidance and Template has been approved by the Executive Officer, the submittal of feasibility determinations to the Executive Officer is no longer required.

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F. Alternatives and In-Lieu Programs

1. If a preferred BMP is not feasible, other BMPs should be implemented to mitigate the project impacts, or, if the cost of BMP implementation greatly outweighs the pollution control benefits, the Permittees may grant a waiver of the BMPs. All waivers, along with waiver justification documentation, must be submitted to the Executive Officer at least 30 days prior to Permittee approval of the project's WQMP. Only those projects that have completed a vigorous feasibility analysis as specified in the WQMP Guidance and Template approved by the Executive Officer per XI.E.7, above, shall be considered for alternatives and in-lieu programs.

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3. The Permittees may collectively or individually propose to establish an urban runoff fund to be used for urban water quality improvement projects within the same watershed that is funded by contributions from developers granted waivers. The contributions should be at least equivalent to the cost savings for waived projects and the urban runoff fund shall be expended for water quality improvement or other related projects approved by the according to a schedule approved by the Executive Officer. If a waiver is granted and an urban runoff fund is established, the annual report for the year should include the following information with respect to the urban runoff fund:

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Deleted: of the updated Water Quality Management Plan Guidance and Template, the Permittees shall implement LID BMPs for all priority development projects.

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Comment [c1]: Is this the same as a default approval by the EO?

Deleted: If site conditions do not permit infiltration, harvesting and re-use, and/or evapotranspiration, and/or bio-treatment of the design capture volume at the project site as close to the source as possible, the alternatives discussed below should be considered and the credits and in-lieu programs discussed under Section F, below, may be considered:

Deleted: Implement LID principles at the project site. This is the preferred approach. For example, in a single family residential development: connect roof drains to a landscaped area, divert driveway runoff to a vegetated strip and minimize any excess runoff generated from the development. The pervious areas to which the runoff from the impervious areas are connected should have the capacity to infiltrate, harvest, evapotranspire and/or bio-treat and re-use at least the design capture volume.

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Deleted: Implement LID on a sub-regional basis. For example, at a 100 unit high density housing unit ... [15]

Deleted: Implement LID on a regional basis. For example, several developments could propose ... [16]

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a. Total amount deposited into the funds and the party responsible for managing the urban runoff fund;

b. Projects funded or proposed to be funded with monies from the urban runoff fund;

c. Party or parties responsible for design, construction, operation and maintenance of urban runoff funded projects; and

d. Current status and a schedule for project completion.

4. The obligation to install structural site design and/or treatment control BMPs at a new development is met if, for a common plan of development, BMPs are constructed with the requisite capacity to serve the entire common project, even if certain phases of the common project may not have BMP capacity located on that phase in accordance with the requirements specified above. The goal of the WQMP is to develop and implement practicable programs and policies to minimize the effects of urbanization on site hydrology, urban runoff flow rates, velocities, duration and time of concentration and pollutant loads. This goal may be achieved through watershed-based structural treatment controls, in combination with site-specific BMPs. All treatment control BMPs should be located as close as possible to the pollutant sources, should not be located within waters of the U.S., and pollutant removal should be accomplished prior to discharge to waters of the US. Regional treatment control BMPs shall be operational prior to occupation of any of the priority project sites tributary to the regional treatment BMP.

5. The Permittees may establish, where feasible and practicable, a water quality credit system for alternatives to LID and hydromodification requirements specified above. A summary of any waivers and any credit given for the types of projects listed below should be included in the annual report. The following types of projects may be considered for the credit system:

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a. Redevelopment projects that reduces the overall impervious area

b. Brownfield redevelopment

c. High density developments (>7 units per acre)

d. Mixed use and transit-oriented development (within ½ mile of transit)

e. Dedication of undeveloped portions of the project site to parks, preservation areas and other pervious uses

f. Regional treatment systems with a capacity to treat flows from all upstream developments

g. Contribution to an urban runoff fund (see F.1.e, above)

h. Offsite mitigation within the same watershed (see E.5.d.iii above)

i. City Center area

j. Historic Districts and Historic Preservation areas

k. Live-work developments

l. In-fill projects

G. Approval of WQMP

Within 12 months of adoption of this Order, each Permittee shall develop and implement standard procedures and tools, and include in its LIP the following:

1. A WQMP review checklist that incorporates the required elements of the WQMP and a clear process for consultation, early in the planning process, with the Permittees' appropriate departments and sections within the municipal organization. This review process shall involve the Permittee's Planning and Engineering Departments during the preliminary and final WQMP review to adequately incorporate project-specific water quality measures and watershed protection principles in their CEQA analysis.
2. Tools or procedures to incorporate project conditions of approval, including proper funding and maintenance and operation of all structural BMPs. The parties responsible for the long-term maintenance and operation of the BMPs upon project close-out and a funding mechanism for operation and maintenance shall be identified prior to approval of the WQMP.
3. A Permittee-specific procedure to ensure that appropriate easements and ownerships are recorded/included in appropriate documents that provides the Permittee the authority for post-construction BMP operation and maintenance (also see J.1, below).
4. A final project close-out procedure and checklist to ensure that post-construction BMPs (site design, structural source control and treatment control BMPs) have been built as per the approved WQMPs or other conditions of approval and are fully functional prior to issuance of certificates of occupancy (also see I.1 and 2, below).
5. A procedure to work cooperatively with the local vector control district to address any vector problems associated with the water quality control systems. If not properly designed and maintained, some of the BMPs implemented to treat urban runoff could create a habitat for vectors (e.g., mosquitoes and rodents) and become a nuisance. The WQMP review, approval, and closure processes shall include consultation and collaboration with the local vector control districts on BMP design, installation, and operation and maintenance to prevent or minimize vector issues. If vector or nuisance problems are identified during inspections, the local vector control district should be notified. Each Permittee should work with the vector control district to remedy any vector problems associated with the vectors.
6. Staff involved with WQMP review and approval shall be trained in accordance with Section XVI, Training Requirements.

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H. Field Verification of BMPs

1. The Permittees' project close-out procedures shall include field verification that site design, source control and treatment control BMPs are designed, constructed and functional in accordance with the approved WQMP. Documentation of the field verification, including the WDID, if applicable, information on the type, location and maintenance responsibility of the site design and treatment control BMPs shall be sent to the Regional Board office by regular mail or electronic mail.
2. The Permittees shall verify through visual observation, that the BMPs are properly maintained, operating, and are functional.

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3. In addition post-construction BMPs shall be inspected prior to the rainy season within three years after project completion and every three years thereafter.

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I. Change of Ownership and Recordation

1. The Permittees shall establish a mechanism to track conveyance of change in ownership and responsibility for the operation and maintenance of post-construction BMPs to ensure that they are properly recorded in public records at the County and/or City and the information is conveyed to all appropriate parties when there is a change in project or site ownership.
2. The Permittees shall maintain a database to track all structural treatment control BMPs, including the location of BMPs, parties responsible for construction, funding, operation and maintenance.

J. Operation and Maintenance of Post-Construction BMPs

1. The Permittees shall ensure to the MEP, that all post-construction BMPs continue to operate as designed and implemented with control measures necessary to effectively minimize the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, flies, etc. Each Permittee should work with the vector control agency to remedy the problems associated with vectors. WQMPs shall identify the responsible party for maintenance, including vector minimization and control measures, and funding source(s) for operation and maintenance of all site design and structural treatment control systems. Permittees shall, through conditions of approval and during inspections, ensure proper maintenance and operation of all permanent structural post-construction BMPs installed in new developments prior to issuance of certificate of occupancy. Design of these structures shall allow adequate access for maintenance. Each Permitttee shall annually review the adequacy of the long term operation and maintenance mechanisms it utilizes.

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3. Within 18 months of adoption of this Order, the Permittees shall develop a database to track operation and maintenance of post-construction BMPs. The database should include available BMP information such as the type of BMP design, location of BMPs (latitude and longitude), date of construction, party responsible for maintenance, maintenance frequency, source of funding for operation and maintenance, maintenance verification, and any problems identified during inspection including any vector or nuisance problems. A copy of this database shall be submitted with the annual report.

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4. The annual report shall include a list of all structural treatment control BMPs approved, constructed and/or operating within each Permittee's jurisdiction.

K. Pre-Approved Projects

1. The above provisions shall be implemented in a manner consistent with the maximum extent practicable standard for all priority projects 90 days from the date of

approval of the updated Water Quality Management Plan Guidance and Template as per Section XI.E.6.

2. The above provisions for LID and hydrologic conditions of concern are not applicable to projects that have an approved WQMP as of the date of adoption of this Order. The Regional Board recognizes that full implementation may not be feasible for certain projects which have received tentative tract or parcel map or other approvals.

L. Road Projects

1. Within 24 months of adoption of this Order, the Principal Permittee, in cooperation with the Co-Permittees, shall develop standard design and post-development BMP guidance to be incorporated into projects for public streets, roads, highways, and freeway improvements,to reduce the discharge of pollutants from the projects to the MEP. The guidance and BMPs shall address any paved surface used for transportation of automobiles, trucks, motorcycles, and other vehicles, and excludes routine road maintenance activities where the surface footprint is not increased. The guidance shall include the following:

   a. Guidance specific to new road projects;
   b. Guidance specific to projects for existing roads;
   c. Size or impervious area criteria that trigger project coverage;
   d. Preference for green infrastructure approaches wherever feasible;
   e. Criteria for design and BMP feasibility analyses.

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XII. PUBLIC EDUCATION AND OUTREACH

A. The Permittees shall continue to implement effective public education efforts already underway as described in the 2006 ROWD/MSWMP and shall implement the most effective elements of the comprehensive public and business education strategy upon completion of the risk-prioritization strategy to this program element. Each year the Permittees shall review their public education and outreach efforts and revise their activities to adapt to the needs identified in the annual reassessment of program priorities with particular emphasis on addressing the most critical behaviors that cause storm water pollution problems. Any changes to the on-going public education program must be described in the annual report.

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B. Consistent with the maximum extent practicable standard, each Permittee shall implement applicable elements of the public education and outreach program that are to be implemented by the Co-Permittees to measurably increase public knowledge regarding the storm drain system and the impacts of urban runoff on receiving water quality.

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C. When feasible and effective, the Permittees shall participate in joint outreach programs with other agencies including, but not limited to, the State of California Storm Water Quality Task Force, Caltrans, and other county and municipal storm water programs to

ensure that a consistent message on storm water pollution prevention is disseminated to the public.

D. The Permittees shall facilitate implementation of BMPs listed in the Storm Water Management Plan and/or the Water Quality Management Plan for restaurants, automotive service centers, gasoline stations and other similar facilities by distributing BMP brochures or other fact sheets to these facilities during inspections and/or through other means.

E. Within 24 months from the date of adoption of this Order, the Permittees shall develop and maintain BMP guidance for the control of those potentially polluting activities identified during the previous permit cycle, which are not otherwise regulated by any agency, including guidelines for the outdoor household use of fertilizers, pesticides, herbicides and other chemicals, and guidance for mobile vehicle maintenance, carpet cleaners, commercial landscape maintenance, and pavement cutting. These guidance documents shall be distributed to the public, trade associations, etc., through participation in community events, trade association meetings and/or by mail.

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F. The Permittees shall ensure that appropriate educational materials, including the BMP brochures, are provided to all new industrial and commercial enterprises in their jurisdiction at the time building and construction permits (or occupancy permits) are issued and/or at the time business licenses are issued.

G. The Permittees shall continue to maintain a hotline telephone number and website to allow the public to report illegal dumping from residential, industrial, construction or commercial sites into public streets, storm drains and other waterbodies. The hotline number and website address for reporting storm water pollution problems shall be promoted in an appropriate public outreach. The Permittees shall further develop and maintain public education materials to encourage the public to report illegal dumping and unauthorized, non-storm water discharges from residential, industrial, construction and commercial sites into public streets, storm drains and to surface waterbodies and their tributaries; clogged storm drains; faded or missing catch basin stencils and general storm water and BMP information. Hotline and web site information shall be included in the public and business education program and shall be listed in the governmental pages of all regional phone books and on the Permittees' website.

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XIII. PERMITTEE FACILITIES / ACTIVITIES

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A. Each Permittee shall inventory its fixed facilities, field operations and drainage facilities and prioritize them based on threat to water quality or based on the risk-based scoring system. Each Permittee shall conduct inspections of these facilities on an annual basis to ensure that these facilities and activities do not contribute pollutants to receiving waters, consistent with the MEP standard. At a minimum, the following municipal facilities, that are owned and/or operated by the Permittees, shall be inspected. Records of these facilities and inspection findings shall be maintained in a database:

1. Public streets, roads (including rural roads) and highways within its jurisdiction;

2. Parking facilities;
3. Fire fighting training facilities;
4. Flood management projects and flood control structures;
5. Areas or facilities and activities discharging directly to environmentally sensitive areas such as 303(d) listed waterbodies or those with a RARE beneficial use designation;
6. Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
7. Solid waste transfer facilities;
8. Land application sites;
9. Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; and
10. Household hazardous waste collection facilities.
11. Municipal airfields.
12. Parks and recreation facilities.
13. Special event venues following special events (festivals, sporting events,
14. Power washing.
15. Other municipal areas and activities that the Permittee determines to be a potential source of pollutants.

B. At least 80% of the inlets, open channels, and basins, shall be inspected at least once during each reporting year and cleaned if necessary, with 100% of the facilities inspected in a two-year period, using the BMP fact sheet developed by the Management Committee. This information shall be included in the annual report.

C. Each Permittee shall clean its drainage facilities where the inspection reveals that the sediment/storage volume is 25% full or greater, or where there is evidence of illegal discharge, or if accumulated sediment or debris impairs the hydraulic capacity of the facility.

D. The Permittees' shall evaluate, annually, the inspection and cleanout frequency of drainage facilities, including catch basins, referred to in Section B and C, above. This evaluation shall consider the data generated by the historic and ongoing inspections and clean out of these facilities, and the IC/ID program (Section VIII). The evaluation shall be based on a prioritized list of drainage facilities considering factors such as: proximity to receiving waters, receiving water beneficial uses and impairments of beneficial uses, historical pollutant types and loads from past inspections/cleanings and the presence of downstream regional facilities that would remove the types of pollutants found in the drainage facility. Using this list, the Permittees shall revise clean out schedules and frequency and provide justification for any proposed clean out frequency that is less than once a year. This information shall be included in the annual report.

E.

F. Each Permittee shall implement control measures necessary to minimize infiltration of seepage from sanitary sewers to the storm drain systems through routine preventive maintenance of the storm drain system. The Permittees who are also owners and/or operators of sewage collection systems shall also implement a routine maintenance

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Deleted: Each Permittee shall examine opportunities to retrofit existing storm water conveyance systems and parks and other recreational areas with water quality protection measures. Within 12 months of adoption of this Order, the Principal Permittee shall submit a proposal for additional retrofit studies that incorporates opportunities for addressing any applicable TMDL implementation plans, hydromodification management and/or LID implementation within the permitted area. The Principal Permittee, in collaboration with the Co-Permittees, may conduct a system-wide evaluation in lieu of each Permittee conducting this evaluation[96].

program for the sewage collection systems in accordance with the SSO Order. Each Permittee shall cooperate and coordinate with the appropriate sewage collection agency to swiftly respond to and contain any sewage spills. This control measure and coordination with the sewering agency shall be documented in the LIP.

G. The Permittees shall continue to train its employees in integrated pest management, and pesticide and fertilizer applications.

H. Successful implementation of the provisions in this Order will require the cooperation of several different departments within each Permittee's jurisdiction (e.g., Fire Department, Department of Environmental Health, Planning Department, Transportation Department, Parks and Recreation, Building and Safety, Code Enforcement, etc.) As such, these Permittee departments, programs, or organizations are expected to actively participate in implementing this Order. Other non-Permittee public agency organizations having programs/activities that have an impact on storm water quality are listed in Attachment 3. The Permittees shall ensure that all necessary Permittee departments within their jurisdiction implement their respective requirements specified in the LIPs.

I. Each Permittee shall annually evaluate the information provided by field staff during their maintenance activities to direct public outreach efforts and determine the need for revision of existing maintenance procedures or schedules. The results of this evaluation shall be provided in the annual report.

J. Each Permittee shall include its procedures, schedules, and tools necessary to implement the requirements of this section in its LIP. The LIP shall state the positions responsible for performing and reporting completion of each task and the training requirements for that position.

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XIV. MUNICIPAL CONSTRUCTION PROJECTS

A. This Order authorizes the discharge of storm water runoff from construction projects that may result in land disturbance of one (1) acre or more (or less than one acre, if it is part of a larger common plan of development or sale which is one acre or more) that are under ownership and/or direct responsibility of any of the Permittees. All Permittee construction activities shall be in accordance with the ROWD and MSWMP.

B. Municipal construction projects shall be in compliance with the latest version of the State's General Permit for Stormwater Discharges Associated with Construction Activities except that an NOI need not be filed with the State Board.

C. Prior to commencement of construction activities, the Permittees shall notify the Executive Officer of the Regional Board of the proposed construction project by submitting a Notice of Construction (NOC) as provided in Attachment 7 and a location map depicting the project location. The filing and annual fees for these NOCs are waived for the Permittees regulated under this Order.

D. Upon completion of the construction project, the Permittee shall notify the Executive Officer or its designee by submitting a Notice of Completion (NOT), provided in Attachment 7 along with photographs of the completed project, and a location map depicting the project location (latitude and longitude), structural post-construction BMP location, field verification report and long term operation and maintenance responsibility. A

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database of post-construction BMPs for which the Permittees are responsible for shall be developed and referenced in the LIP.

E. The Permittees shall develop and implement storm water pollution prevention plan (SWPPP), a monitoring program that is specific for the construction project prior to the commencement of any of the construction activities, and any other reports or plans required under the General Construction Activity Storm Water Permit. The SWPPP shall be kept at the construction site and released to the public and/or Regional Board staff upon request.

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F. The Permittees shall give advance notice to the Executive Officer of the Regional Board of any planned changes in the construction activity, which may result in non-compliance with the latest version of the State's General Construction Activity Storm Water Permit.

G. Emergency Permittee public works projects required to protect public health and safety are exempted from compliance with the requirements of this subsection until the emergency ends, at which time they need to comply with the requirements of this section.

H. All other terms and conditions of the latest version of the State's General Construction Activity Storm Water Permit shall be applicable.

XV. MONITORING AND RECORD KEEPING FOR DE MINIMUS TYPES OF DISCHARGES

A. Within 24 months adoption of this Order, the Permittees shall revise their LIP to include the following information regarding their de minimus discharges, if any:

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1. The type of de minimus discharges including potential pollutants and concentration of each constituent from each source;

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2. The estimated average and maximum daily flow rates in million gallons per day (mgd), the expected start date of discharge, the frequency and duration of the discharge;
3. The proposed discharge location(s), including latitude and longitude, for each discharge;
4. A description of the BMPs and proposed treatment system (if appropriate);
5. The affected receiving water (if applicable);
6. A map showing the flow path from the point of initial discharge to the receiving water (if applicable);

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7. A proposed self-monitoring program[97] for the proposed discharge consistent with Attachment E of Order No. R8-2009-0003. Any variations from these requirements should be with the Executive Officer's approval.

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B. Permittees with de-minimus types of discharges from their facilities and/or operations that are currently regulated under Order No. R8-2009-0003 who wish to discharge under this Order shall continue with the monitoring and reporting program as authorized under Order R8-2009-003 and shall include that monitoring program in the LIP.

[97] For new discharges, the monitoring provision in Attachment E of Order R8-2009-003 may be used as a guide.

C. Compliance determinations shall be based on available analyses for the time interval associated with the duration of the discharge. Where only one sample analysis is available in a specified time interval (e.g., weekly, monthly, quarterly), that sample shall serve to characterize the discharge for the entire interval.

D. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, discharge limitation (e.g., maximum daily concentration limit), or receiving water limitation of this Order, the Discharger shall notify the Executive Officer by telephone (951) 782-4130 within 24 hours of having knowledge of such noncompliance that may endanger public health or the environment, and shall confirm this notification in writing within five days, unless the Executive Officer waives the need for written notification. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule for implementation.

E. Monitoring reports shall be submitted with the annual report and shall include:

1. The results of all chemical analyses;
2. The daily flow data;
3. A summary of the monthly activities including a report detailing compliance or noncompliance and the schedules for compliance;
4. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and the actions undertaken or proposed which will bring the discharger into full compliance with requirements at the earliest time, and an estimate of the date when the discharger will be in compliance. The discharger shall notify the Executive Officer by letter when compliance with the time schedule has been achieved.

F. Permittees discharging at a volume equal to or greater than 150,000 gallons per day (if discharge is entering receiving waters) shall submit semi-annual reports that tabulate all measured flows and measured parameters within the most recent six month period. Where discharges associated with these projects last less than 6 months, a report covering the period of discharges shall be submitted.

XVI. TRAINING PROGRAM FOR STORM WATER MANAGERS, PLANNERS, INSPECTORS AND MUNICIPAL CONTRACTORS

A. Within 24 months from the date of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees, will update their existing training program to incorporate new or revised program elements related to the development of the LID program, revised WQMP, and establishment of LIPs for each Permittee. The updated training program include a training schedule, curriculum content, and defined expertise and competencies for storm water managers, inspectors, maintenance staff, those involved in the review and approval of WQMPs, public works employees, community planners and for those preparing and/or reviewing CEQA documentation and for contractors working on Permittee projects.

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1. Within 36 months, the Permittees will update training program elements to incorporate new or enhanced stormwater program elements due for completion within 36 months of permit adoption.

2. By 48 months, the Permittees will have a completely revised training program that includes any enhanced or new program elements not previously addressed, including the WAP.

B. The curriculum content should include: federal, state and local water quality laws and regulations as they apply to construction and grading activities, industrial and commercial activities; the potential effects of construction, industrial and commercial activities and urbanization on water quality; implementation and maintenance of erosion and sediment control BMPs and pollution prevention measures; the proper use and maintenance of erosion and sediment controls; the enforcement protocols and methods established in the MSWMP, LIP, WQMP, including LID Principles and Hydrologic Conditions of Concern, the CASQA Construction Stormwater Guidance Manual, Enforcement Response Guide and Illicit Discharge/Illegal Connection Training Program. The training program should address vector control issues related to storm water pollution control BMPs.

C. The training modules for each category of trainees (managers, inspectors, planners, engineers, contractors, public works crew, etc.) should define the required competencies, outline the curriculum, a testing procedure at the end of the training program and proof of completion of training (Certificate of Completion).

D. At least on an annual basis, the Principal Permittee shall provide and document training to applicable public agency staff on the updated Municipal Activities and Pollution Prevention Strategy (MAPPPS), and any other applicable guidance and procedures developed by the Permittees to address Permittee activities in fixed facilities as well as field operations, including conveyance system maintenance. Each Permittee shall document training for its staff related to jurisdiction-specific responsibility, procedures and implementation protocols established in its LIP. The field program training should include Model Integrated Pest Management, pesticide and fertilizer guidelines. Appropriate staff from each municipality shall attend at least three of these training sessions during the term of this Order. The training sessions may be conducted in classrooms or using videos, DVDs, or other multimedia with appropriate documentation and a final test to verify that the material has been properly reviewed and understood. In instances where applicable municipal operations are performed by contract staff, each Permittee shall require evidence that contract staff have received a level of training equivalent to that listed above.

E. The Principal Permittee shall provide and document public employee training for public employees and interested consultants that incorporates, at a minimum, the requirements in this Order related to new development and significant re-development and 401 certifications, and model environmental review (CEQA review) for preparation of environmental documents.

F. The Principal Permittee shall provide training information to municipal contractors to assist the contractors in training their staff. In instances where applicable municipal operations

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are performed by contract staff, the Permittees shall require evidence that contract staff have received a level of training equivalent to that listed above.

G. The Principal Permittee shall either notify designated Regional Board staff regarding training events via e-mail or submit course content in advance of training sessions.

H. Each Permittee shall adequately train any staff involved with storm water related projects and the implementation of this Order within six months from being assigned these duties and on an annual basis thereafter, prior to the rainy season.

I. The LIP shall specify the training requirements for Permittee staff and contractor involved in implementing the requirements of this Order. Each Permittee shall maintain a written record of all training provided to its storm water and related program staff.

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XVII. NOTIFICATION REQUIREMENTS

A. Within 24 hours of discovery, the Permittees shall provide oral or email notification to the Executive Officer of noncompliant sites within its jurisdiction that are determined to pose a threat to human health or the environment (e.g., an oil spill that could impact wild life, a hazardous substance spill where residents are evacuated, reportable quantities of hazardous substance spills defined in 40 CFR 117 & 302, etc.). Following oral notification, a written report must be submitted to the Executive Officer within 10 days, detailing the nature of the non-compliance, any corrective action taken by the site/facility owner, other relevant information (e.g., past history of non-compliance, environmental damage resulting from the non-compliance, site/facility owner responsiveness) and the type of enforcement action that will be carried out by the Permittee. Further, incidences of noncompliance shall be recorded along with the information noted in the written report and the final outcome/enforcement for the incident in the appropriate database.

B. Sewage spill notification shall be consistent with the timelines specified in the SSO Order.

C. All reports submitted by the Permittees as per the requirements in this Order for the approval of the Executive Officer shall be publicly noticed and made available on the Regional Board's website, or through other means, for public review and comments. The Executive Officer shall consider all comments received prior to approval of the reports. Any unresolved issues shall be scheduled for a public hearing at a Regional Board meeting after proper public notice.

D. As specified in Section X.A.8, the Permittees shall deem facilities operating without a proper permit to be in significant non-compliance. These facilities shall be reported within 14 calendar days to the Regional Board by electronic mail or other written means. Permittees' notifications of facilities' failure to obtain required permits under the Construction Activities Storm Water General Permit (Construction Permit), Industrial Activities Storm Water General Permit (Industrial Permit), including Requirements to file a Notice of Intent or No Exposure Certification, Notice of Non-applicability, and/or 401 Certification must include, at a minimum, the following documentation:

1. Name of the facility;
2. Operator of the facility;

3. Owner of the facility;
4. Construction/Comercial/industrial activity being conducted at the facility that is subject to the Construction//Industrial General Permit, or 401 Certification; and
5. Records of communication with the facility operator regarding the violation, including an inspection report.

XVIII. PROGRAM MANAGEMENT ASSESSMENT / MSWMP REVIEW

A. Upon the effective date of this Order, the Permittees shall start implementing the 2007 MSWMP consistent with the requirements of this Order. If major modifications to the 2007 MSWMP not addressed in this Order are determined to be necessary, the Permittees shall prepare and submit MSWMP modifications to the Executive Officer for review and approval. Such modifications may include regional and watershed-specific requirements and/or waste load allocations developed and approved pursuant to the TMDL process.

B. By October 1 of each year, the Permittees shall evaluate the MSWMP to determine the need for any revisions in order to reduce pollutants in MS4 discharges to the maximum extent practicable. In addition, the first annual review after adoption of this Order shall include the following:

1. Review of the formal training needs of municipal employees;
2. Review of training for the designated NPDES inspectors.; and
3. Propose any changes to assess program effectiveness on an area-wide and jurisdictional basis. Permittees may utilize the CASQA Guidance[98] for developing these assessment measures at the six outcome levels. The assessment measures must target both water quality outcomes and the results of municipal enforcement activities.

C. The annual report shall include the findings of this review and a schedule to address necessary revisions, or a copy of the amended MSWMP with the proposed changes. Replacement pages are acceptable if modifications are not extensive. Annual reports shall also be submitted in electronic format.

D. The Management Committee will meet at least 8 times a year to discuss issues related to permit implementation and regional and statewide issues. Each Permittee's designated representative or a designated alternate should attend not less than 7 out of 8 meetings.

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XIX. FISCAL RESOURCES

A. The Permittees shall secure adequate funding, subject to appropriation, for administration, implementation and enforcement of the areawide storm water management program elements and local storm water programs necessary to meet all requirements of this Order.

[98] CASQA, May 2007. Municipal Stormwater Program Effectiveness Assessment Guidance.

B. The Permittees shall prepare and submit a financial summary to the Executive Officer. The financial summary shall be submitted with the annual report each year and shall, at a minimum, include the following:

1. Each Permittee's expenditures for the previous fiscal year,
2. Each Permittee's budget for the current fiscal year,
3. A description of the source of funds, and
4. Each Permittee's estimated budget for the next fiscal year.

XX. PROVISIONS

A. All reports submitted by the Permittees as per the requirements in this Order for the approval of the Executive Officer shall be publicly noticed and made available on the Regional Board's website, or through other means, for public review and comments. The Executive Officer shall consider all comments received prior to approval of the reports. Any unresolved significant issues shall be scheduled for a public hearing at a Regional Board meeting prior to approval by the Executive Officer.

B. Permittees shall demonstrate compliance with all the requirements in this Order and specifically with Section III. Discharge Limitations, and Section IV. Receiving Water Limitations, through timely implementation of their MSWMP and any modifications, revisions, or amendments developed pursuant to this Order approved by the Executive Officer or determined by the Permittees to be necessary to meet the requirements of this Order. The MSWMP, including any approved amendments thereto is hereby made an enforceable component of this Order.

C. The Permittees shall, at a minimum, implement all elements of the MSWMP and its components. Where the dates are different from the corresponding dates in this Order, the dates in this Order shall prevail. Any proposed revisions to the MSWMP shall be submitted with the Annual Report to the Executive Officer of the Regional Board for review and approval. All approved revisions to the MSWMP shall be implemented as per the time schedules approved by the Executive Officer. In addition to those specific controls and actions required by: (1) the terms of this Order and (2) the MSWMP and its components, each Permittee shall implement additional controls, if any are necessary, to reduce the discharge of pollutants in storm water to the maximum extent practicable as required by this Order.

D. Certain BMPs implemented or required by the Permittees for urban runoff management may create habitat for vectors (e.g., mosquitoes and rodents) if not properly designed and maintained. Close collaboration and cooperative effort between the Permittees and local vector control districts and the State Department of Health Services during the development and implementation of urban runoff management programs are necessary to minimize potential vector habitat and public health impacts resulting from vector breeding. Nothing in this permit is intended to prohibit inspection or abatement of vectors by the State or local vector control agencies in accordance with the respective Health and Safety Code.

E. The Permittees shall comply with Monitoring and Reporting Program No. R8-2009-0036 and any revisions thereto, which are hereby made a part of this Order. The Executive Officer is authorized to revise the Monitoring and Reporting Program to allow the Permittees to participate in regional, statewide, national or other monitoring programs in lieu of or in addition to Monitoring and Reporting Program No. R8-2009-0036.

F. Upon approval by the Executive Officer or the Regional Board, all plans, reports and subsequent amendments required by this Order shall be implemented and shall become an enforceable part of this Order. Prior to approval by the Executive Officer, these plans, reports and amendments shall not be considered as an enforceable part of this Order.

G. The Permittees shall report to the Executive Officer of the Regional Board:

1. Any enforcement actions and discharges of storm or non-storm water, known to the Permittees, which may have an impact on human health or the environment, and

2. Any suspected or reported activities on federal, state, or other entity's land or facilities, where the Permittees do not have any jurisdiction, and where the suspected or reported activities may be contributing pollutants to waters of the U.S.

H. The permit application and special NPDES program requirements are contained in 40 CFR 122.21 (a), (b), (d)(2), (f), (p); 122.41 (a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l); and 122.42 (c), and are incorporated into this Order by reference.

XXI. PERMIT MODIFICATION

A. Following appropriate public notice, and in accordance with 40 CFR 122.41(f), this Order may be modified, revoked or reissued prior to its expiration date for the following reasons:

1. To address significant changes in conditions identified in the technical reports required by the Regional Board which were unknown at the time of the issuance of this Order;
2. To incorporate applicable requirements of statewide water quality control plans adopted by the State Water Resources Control Board or any amendments to the Basin Plan approved by the Regional Board, the State Board and, if necessary, by the Office of Administrative Law and the USEPA;
3. To comply with any applicable requirements, guidelines, or regulations issued or approved under the Clean Water Act, if the requirements, guidelines, or regulations contain different conditions or additional requirements than those included in this Order; or,
4. To incorporate any requirements imposed upon the Permittees through the TMDL process.

B. The filing of a request by the Permittees for modification, revocation and re-issuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any conditions of this Order.

XXII. PERMIT EXPIRATION AND RENEWAL

A. This Order expires on XXXXXXXXXX and the Permittees must file a Report of Waste Discharge (permit renewal application) no later than 180 days in advance of such

expiration date as application for issuance of new waste discharge requirements. The Report of Waste Discharge shall, at a minimum, include the following:

1. A program effectiveness analysis, including the effectiveness of the overall urban and storm water runoff management program in achieving water quality standards in receiving waters.
2. Any proposed revisions to the urban and storm water runoff management program based on the findings of the program effectiveness analysis (this could be included in a revised MSWMP). Revisions to the program elements should be consistent with the risk-based approach proposed in the 2006 Report of Waste Discharge.
3. Changes in land use and/or population including map updates.
4. Any significant changes to the storm drain systems, outfalls, detention or retention basins or dams, and other controls including map updates of the storm drain systems.
5. Any new or revised program elements and compliance schedule(s) necessary to comply with Section VI of this Order.

B. All permit applications (Report of Waste Discharge), annual reports and other information submitted under this Order shall be signed by either a principal executive officer or a ranking elected official (40 CFR 122.22(a)(3)) or a duly authorized representative as per 40 CFR 122.22(b).

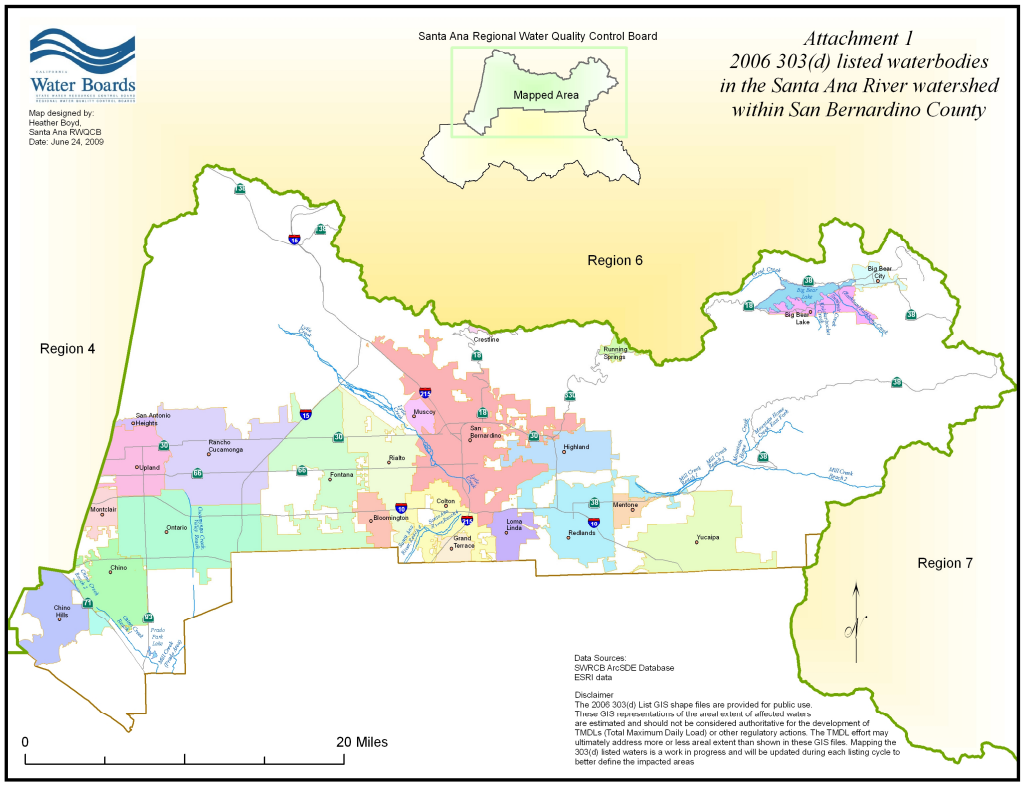
C. This Order shall serve as an NPDES Permit pursuant to Section 402 (p) of the Clean Water Act, or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator of the USEPA has no objections. If the Regional Administrator objects to its issuance, the Permit shall not become effective until such objection is withdrawn.

I, Gerard Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on XXXXXXXXXX.

_____

Gerard J. Thibeault
Executive Officer

Attachment 1: San Bernardino County Project Area



Attachment 2: Inland Surface Streams

A. Santa Ana River

Santa Ana River, Reaches 4, 5, and 6

B. San Bernardino Mountain Streams

Mill Creek Drainage

- Mill Creek, Reaches 1 and 2
- Mountain Home Creek
- Mountain Home Creek, East Fork
- Monkey Face Creek
- Alger Creek
- Falls Creek
- Vivian Creek
- High Creek
- Other Tributaries: Lost, Oak Cove, Green, Skinner, Momyer and Glen Martin Creeks, and other Tributaries to these Creeks

Bear Creek Drainage

- Bear Creek
- Siberia Creek
- Slide Creek
- All Other Tributaries to these Creeks

Big Bear Lake Tributaries

- North Creek
- Metcalf Creek
- Grout Creek
- Rathbone (Rathbun) Creek
- Summit Creek
- Other Tributaries to Big Bear Lake: Johnson, Minnelusa, Polique, and Red Ant Creeks, and other Tributaries to these Creeks

Baldwin Lake Drainage

- Shay Creek
- Other Tributaries to Baldwin Lake: Sawmill, Green, and Caribou Canyons and other Tributaries to these Creeks.

C. Other Streams Draining to Santa Ana River (Mountain Reaches)

- Cajon Creek
- City Creek
- Devil Canyon Creek
- East Twin and Strawberry Creeks
- Waterman Canyon Creek
- Fish Creek
- Forsee Creek
- Plunge Creek

Barton Creek
Bailey Canyon Creek
Kimbark Canyon, East Fork Kimbark Canyon, Ames Canyon and West Fork Cable Canyon Creeks
Valley Reaches of Above Streams
Other Tributaries (Mountain Reach): Alder, Badger Canyon, Bledsoe Gulch, Borea Canyon, Breakneck, Cable Canyon, Cienega Seca, Cold, Converse, Coon, Crystal, Deer, Elder, Fredalba, Frog, Government, Hamilton, Heart Bar, Hemlock, Keller, Kilpecker, Little Mill, Little Sand Canyon, Lost, Meyer Canyon, Mile, Monroe Canyon, Oak, Rattlesnake, Round Cienega, Sand, Schneider, Staircase, Warm Springs Canyon and Wild Horse Creeks, and other tributary to these Creeks

D. San Gabriel Mountain Streams (Mountain Reaches)

San Antonio Creek
Lytle Creek (South, Middle, and North Forks) and Coldwater Canyon Creek
Day and East Etiwanda Creeks
Valley Reaches of Above Streams
Cucamonga Creek (Mountain Reach)
Cucamonga Creek (Valley Reach)
Other Tributaries (Mountain Reaches): San Sevaine, Deer, Duncan Canyon, Henderson Canyon, Stoddard Canyon, Icehouse Canyon, Cascade Canyon, Cedar, Falling Rock, Kerkhoff and Cherry Creeks, and other tributaries to these Creeks.

E. San Timoteo Area Streams

San Timoteo Creek, Reaches 1 and 2
Oak Glen, Potato Canyon and Birch Creeks
Yucaipa Creek

F. Prado Area Streams

Chino Creek

G. Lakes and Reservoirs

Baldwin Lake
Big Bear Lake
Jenks Lake
Prado Park Lakes

Attachment 3: List of Other Entities with the Potential to Discharge Pollutants to the San Bernardino County Storm Water Conveyance System

A. Government Agencies

U.S. Army Corps of Engineers
U.S. Department of Agriculture - Forest Services, San Bernardino County National Forest
California Department of Transportation (Cal Trans)
California Department of Parks and Recreation - Chino Hills State Park
Inland Valley Development Agency, San Bernardino International Trade Center and Airport

B. Hospitals

Bear Valley Community Hospital
Chino Community Hospital
Doctors Hospital
Kaiser Foundation Hospital
Loma Linda Community Hospital
Loma Linda University Medical Center
Mountains Community Hospital
Ontario Community Hospital
Patton State Hospital
U.S. Department of Veterans Affair - Jerry L. Pettis Memorial Veterans Medical Center
Redlands Community Hospital
St. Bernardino Medical Center
San Antonio Community Hospital
San Bernardino Community Hospital
San Bernardino County Hospital

C. Railroads

AT&SF Railway Company
Union Pacific Railroad Company

Deleted: Southern Pacific Railroad Company

D. School Districts

Alta Loma Elementary School District
Bear Valley Unified School District
Central Elementary School District
Chaffey Joint Union High School District
Chino Valley Unified School District
Colton Joint Unified School District
Cucamonga Elementary School District
Etiwanda Elementary School District
Fontana Unified School District
Mountain View Elementary School District
Mt. Baldy joint Elementary School District
Ontario-Montclair Elementary School District
Rialto Unified School District
Rim of the World Unified School District

Redlands Unified School District
San Bernardino City Unified School District
Upland Unified School District
Yucaipa Joint Unified School District

E. Universities and Colleges

California State University - California State University San Bernardino
San Bernardino Community College District - Chaffey College Campus
San Bernardino Community College District - Crafton Hills College Campus
San Bernardino Community College District - San Bernardino Valley College Campus
University of Redlands
Loma Linda University

F. Water Districts

Big Bear Municipal Water District
Bear Valley Water District
Inland Empire Utilities Agency
Cucamonga Valley Water District
East Valley Water District
Monte Vista Water District
San Bernardino Valley Municipal Water District
San Bernardino Valley Water Conservation District
West San Bernardino County Water District
Yucaipa Valley Water District

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G. Transportation

Omnitrans
Metrolink (Fontana, Montclair, Ontario, Rancho Cucamonga, Rialto, San Bernardino)
Ontario International Airport (LA/ONT)
Redlands Municipal Airport
Rialto Municipal Airport
Chino Airport
Cable Airport

H. Other Potential Dischargers

United States Postal Service
California National Guard
Southern California Edison

Attachment 4: Glossary

Basin Plan – Water Quality Control Plan developed by the Regional Board for the Santa Ana River Watershed.

Beneficial Uses – The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals. "Beneficial Uses" that may be protected against include, but are not limited to: domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code Section 13050(f)]. Beneficial Uses for the Receiving Waters are identified in the Basin Plan.

Best Available Technology (BAT) – BAT is the acronym for best available technology economically achievable. BAT is the technology-based standard established by congress in CWA section 402(p)(3)(A) for industrial dischargers of storm water. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of treatment and best management practices, or BMPs. For example, secondary treatment (or the removal of 85% suspended solids and BOD) is the BAT for suspended solid and BOD removal from a sewage treatment plant. BAT generally emphasizes treatment methods first and pollution prevention and source control BMPs secondarily.

The best economically achievable technology that will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants is determined in accordance with regulations issued by the Environmental Protection Agency Administrator. Factors relating to the assessment of best available technology shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the permitting authority deems appropriate.

Best Conventional Technology (BCT) – BCT is an acronym for Best Conventional Technology. BCT is the treatment techniques, processes and procedure innovations, and operating methods that eliminate or reduce chemical, physical, and biological pollutant constituents.

Best Management Practices – Best Management Practices (BMPs) are defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.

Bioaccumulate – The progressive accumulation of contaminants in the tissues of organisms through any route including respiration, ingestion, or direct contact with contaminated water, sediment, pore water, or dredged material to a higher concentration than in the surrounding environment. Bioaccumulation occurs with exposure and is independent of the tropic level.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biological integrity) of a water body.

Biological Integrity – Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55-68 as: "A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region." Also referred to as ecosystem health.

CalTrans - California Department of Transportation

CEQA – California Environmental Quality Act (Section 21000 et seq. of the California Public Resources Code).

Clean Water Act Section 402(p) – [33 USC 1342(p)] is the federal statute requiring municipal and industrial dischargers to obtain NPDES permits for their discharges of storm water.

Clean Water Act Section 303(d) Listed Water Body – is an impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology-based pollution controls required by the CWA. The discharge of urban runoff to these water bodies by the Co-permittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Site – Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation

Contamination – As defined in the Porter-Cologne Water Quality Control Act, contamination is "an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease." 'Contamination' includes any equivalent effect resulting from the disposal of waste whether or not waters of the U.S. are affected.

Controllable Water Quality Factors – Section 13241 of the Porter-Cologne Water Quality Control Act requires Regional Boards to take into consideration "water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area" when establishing water quality objectives. The Permittees are not responsible for meeting water quality objectives, if the factors causing exceedances are beyond their ability to control through practicable measures.

CWA – Federal Clean Water Act

CWC – California Water Code

First Draft: June 26, 2009

Deleted: Conditions of Concern – Scour, erosion (sheet, rill and/or gully), aggradation (raising of a streambed from sediment deposition), and changes in fluvial geomorphology, hydrology or the aquatic ecosystem.¶

Debris – Debris is defined as the remains of anything destroyed or broken, or accumulated loose fragments of rock.

Development Projects - New development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces, public agency projects, and land subdivision.

Dry Season – April 15 through October 1 of each year, unless specified otherwise in an approved TMDL Implementation Plan.

Effective Impervious Area (EIA)[99] – EIA is that portion of the total impervious area (TIA) with direct hydraulic connection to the downstream drainage system. The EIA includes streets, driveways, sidewalks adjacent to curbed streets, parking lots, and rooftops hydraulically connected to the curb or storm sewer system. Reducing effective impervious area is defined as disconnecting impervious surfaces such as sidewalks, rooftops, parking areas, and streets, from the drainage system so that runoff does not flow directly to the downstream drainage system.

Effluent Limitations – Means any restriction on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into Waters of the United States, waters of the "contiguous zone" or the ocean (consistent with 40 CFR § 122.2).

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the Santa Ana River Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the Santa Ana River Basin (1994) and amendments); areas designated as preserves or their equivalent under the Natural Communities Conservation Program (Multiple Species Habitat Conservation Plan, MSHCP) within the Cities and County of San Bernardino; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.

Erosion – The process whereby material (such as sediment) is detached and entrained in water or air and can be transported to a different location. Chemical erosion involves materials that are dissolved and removed and transported.

GIS - Geographical Information Systems

Grading – The cutting and/or filling of the land surface to a desired slope or elevation.

Green Infrastructure- generally refers to technologically feasible and cost-effective syatems and practices that use or mimic natural processes to infiltrate, evapotranspirate, or reuse stormwater on the site where it is generated.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These

[99] United States Environmental Protection Agency, May 2005. Estimating and Projecting Impervious Cover in the Southeastern United States. EPA/600/R-05/061.
[101] United States Environmental Protection Agency. 2007. National Management Measures to Control Nonpoint Source Pollution from Hydromodification. EPA-841-B-07-002.

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Deleted: that is directly connected to the stream drainage system.

Deleted: Impervious area such as rooftops, streets, sidewalks, and parking areas do not allow water to drain into the soil. Impervious area that collects and drains the water directly to a stream or wetland system via pipes or sheet flow is considered "effective impervious area" because it effectively drains the landscape. Impervious area that drains to landscaped areas, swales, parks and other impervious areas is considered "ineffective" because the water is allowed to infiltrate through the soil and into ground water, without a direct connection to the stream or wetland.¶

Deleted: percolates into the soil and

Deleted: streams

Deleted: Disconnecting the stormwater system allows the watersheds' hydrologic cycle to respond in a manner that more closely reflects pre-disturbed conditions. EIA reduction can occur as part of new development, redevelopment, or be part of a retrofit design. The level of benefit is determined by how well the practices minimize runoff in small to mid size storm events.

Deleted: Limitations on the volume of each waste discharge, and the quantity and concentrations of pollutants in the discharge. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect ben ... [18]

Deleted: Effluent limitations are limitations of the quantity and concentrations of pollutants in a discharge. The limitations are ... [19]

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Deleted: When land is diminished or wane away due to the effects of wind, water, or glacial ice. Often the eroded debris (silt or sediment) becor ... [20]

Deleted: "management approaches and technologies that utilize, enhance and/or mimic the natural hydrologic cycle processes of infiltration, ... [21]

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also include materials named by the U.S. EPA to be reported if a designated quantity of the material is spilled into the waters of the United States or emitted into the environment.

HCOC – Hydrologic Condition of Concern – Condition when a proposed hydrologic change is deemed to have the potential to cause significant impacts on downstream channels and aquatic habitats, alone or in conjunction with impacts of other projects.

Hydromodification – the "alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources"[101](USEPA, 2007).

The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that may result in increased stream flows and sediment transport.

Deleted: In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

IC/ID – Illicit Connection/Illegal Discharge

Illicit Connection – Illicit Connection means any connection to the MS4 that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term Illicit Connection includes all non storm-water discharges and connections except discharges pursuant to an NPDES permit, discharges that are identified in Section II, Discharge Limitations/Prohibitions, of this Order, and discharges authorized by the Executive Officer.

Illicit Discharge – Any discharge to a municipal separate storm sewer that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non-storm water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Section V, Effluent Limitations and Discharge Specifications, of this Order, and discharges authorized by the Regional Board.

Impaired Waterbody – Section 303(b) of the CWA requires each of California's Regional Water Quality Control Boards to routinely monitor and assess the quality of waters of their respective regions. If this assessment indicates that Beneficial Uses are not met, then that waterbody must be listed under Section 303(d) of the CWA as an Impaired Waterbody. The 2004 water quality assessment found a number of water bodies within the Permit Area as impaired pursuant to Section 303(d). In the Permit Area, these include: Canyon Lake (for nutrients and pathogens); Lake Elsinore (for nutrients, organic enrichment/low dissolved oxygen, unknown toxicity and sedimentation); Lake Fulmor (for pathogens); Santa Ana River, Reach 3 (for nutrients, pathogens, salinity, TDS, and chlorides); and Santa Ana River, Reach 4 (for pathogens).

Implementation Agreement – The Implementation Agreement establishes the responsibilities of each Permittee and a procedure for funding the shared costs.

Land Disturbance – The clearing, grading, excavation, stockpiling, or other construction activity that results in the possible mobilization of soils or other Pollutants into the MS4. This specifically does not include routine maintenance activity to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. This also does not include emergency construction activities required to protect public health and safety. The Permittees should first confirm with Regional Board staff if they believe that a particular routine maintenance activity is exempt under this definition from the General Construction Activity Storm Water Permit or other Orders issued by the Regional Board.

Load Allocations (LA) – Distribution or assignment of TMDL Pollutant loads to entities or sources for existing and future nonpoint sources, including background loads.

Local Implementation Plan - Document describing an individual Permittee's implementation procedures for compliance with the MS4 Permit, including ordinances, databases, plans, and reporting materials.

Low Impact Development (LID) – A set of technologically feasible and cost-effective techniques that are designed to reduce runoff of water and pollutants from the site at which they are generated. By means of infiltration, evapotranspiration, and reuse of rainwater, LID techniques manage stormwater and pollutants at the source. The terms "LID" and "Green Infrastructure" are sometimes used interchangeably.

Maximum Extent Practicable (MEP) – is not defined in the CWA; it refers to management practices, control techniques, and system design and engineering methods for the control of pollutants, taking into account considerations of synergistsic, additive, and competing factors, including, but not limited to pollutant removal effectiveness, regulatory compliance, gravity of the problem, public acceptance, social benefits, and technological feasibility.

Municipal Storm Water Conveyance System – (See Municipal Separate Storm Sewer System or MS4).

Municipal Separate Storm Sewer System (MS4) – MS4 is an acronym for Municipal Separate Storm Sewer System. A Municipal Separate Storm Sewer System is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, natural drainage features or channels, modified natural channels, man-made channels, or storm drains): (i) Owned or operated by a State, city town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes; (ii) Designated or used for collecting of conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

National Pollution Discharge Elimination System (NPDES) – Permits issued under Section 402(p) of the Federal Clean Water Act for regulating discharge of pollutants to waters of the United States.

New Urbanism - New Urbanism refers to the use of creative strategies to develop ways that preserve natural lands and critical environmental areas, protect water and air quality, and reuse already-developed land. This is based on principles of planning and architecture that work together to create human-scale, walkable communities that preserve natural resources.

NOI [Notice of Intent] – A NOI is an application for coverage under the General Stormwater Permits.

Non-Point Source Pollution (NPS) – Non point source refers to diffuse, widespread sources of pollution. These sources may be large or small, but are generally numerous throughout a watershed. Non Point Sources include but are not limited to urban, agricultural, or industrial areas, roads, highways, construction sites, communities served by septic systems, recreational boating activities, timber harvesting, mining, livestock grazing, as well as physical changes to stream channels, and habitat degradation. NPS pollution can occur year round any time

Deleted: storm water management and land development strategy that combines a hydrologically functional site design with pollution prevention measures to compensate for land development impacts on hydrology and water quality. The approach emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions. Low Impact Development methods mimic the predevelopment site hydrology by using site design techniques that store, infiltrate, evaporate, and detain runoff. Low impact development and green infrastructure are used interchangeably. LID is an innovative storm water management approach with a basic principle that is modeled after nature: manage rainfall at the source using site design techniques that store, infiltrate, bio-treat, evaporate and detain runoff. LID's goal is to mimic a site's predevelopment hydrology by ... [22]

Deleted: LID principles are based on controlling stormwater at the source by the use of microscale controls that are distributed throughout the site. This is unlike conventional approaches that typically convey and manage runoff in large facilities located at the base of drainag ... [23]

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Comment [MEM2]: RB staff prefers this definition.

Deleted: MEP is an acronym for "Maximum Extent Practicable" and refers to the standard for implementation of storm water management programs. Section 402(p)(3)(B)(iii) of the Clean Water Act requires that municipal storm water permits "shall require co ... [24]

Deleted: , including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that ... [25]

Deleted: Historic and current developments make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified fea ... [26]

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rainfall, snowmelt, irrigation, or any other source of water runs over land or through the ground, picks up pollutants from these numerous, diffuse sources and deposits them into rivers, lakes, and coastal waters or introduces them into ground water.

Non-Storm Water – Non-storm water consists of all discharges to and from a storm water conveyance system that do not originate from precipitation events (i.e., all discharges from a conveyance system other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges. An illicit discharge is defined at 40 CFR 122.26(b)(2) as any discharge to a municipal storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a separate NPDES permit and discharges resulting from emergency fire fighting activities.

NOT - Notice of Termination – Formal notice to the Regional Board of intent to terminate water discharge for projects covered under a General Stormwater Permit.

Nuisance – As defined in the Porter-Cologne Water Quality Control Act a nuisance is "anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes."

Numeric Effluent Limitations – a quantitative limitation on pollutant concentrations or levels intended to protect beneficial uses and water quality objectives of a water body.

Deleted: The typical method by which effluent limits are prescribed for pollutants in waste discharge requirements implementing the federal NPDES regulations. When numeric effluent limits are met at the "end-of-pipe," the effluent discharge generally will not cause water quality standards to be exceeded in the receiving waters (i.e., water quality standards will also be met).

Nurdles – A plastic pellet (typically less than 5mm diameter), also known as pre-production plastic pellet or plastic resin pellet.

Order – Order No. R8-2009-0036 (NPDES No. CAS618036)

Outfall - Means a Point Source as defined by 40 CFR 122.2 a, the point where a municipal separate storm sewer discharges to Waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances which connect segments of the same stream or other Waters of the United States and are used to convey Waters of the United States. [40 CFR 122.26 (b)(9)]

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PAH (Polycyclic aromatic hydrocarbon) – are hydrocarbon that consist of fused aromatic rings. PAHs occur in oil, coal, and tar deposits, and are produced as byproducts of fuel burning (whether fossil fuel or biomass). PAHs are persistent, bioaccumulative, and toxic (PBT) pollutants. Though exposure usually occurs by breathing contaminated air, other sources include industrial processes, transportation, energy production and use, and disposal activities

Party – Defined as an individual, association, partnership, corporation, municipality, state or federal agency, or an agent or employee thereof. [40 CFR 122.2]

PCBs - Polychlorinated biphenyls. Due to PCB's toxicity and classification as persistent organic pollutants, PCB production was banned by the United States Congress in 1976 and by the Stockholm Convention on Persistent Organic Pollutants in 2001.

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Permittees – Co-permittees and the Principal Permittee

Person – A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. [40 CFR122.2].

Point Source – Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant – Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated. It includes any type of industrial, municipal, and agricultural waste discharged into water. The term "pollutant" is defined in section 502(6) of the Clean Water Act as follows: "The term 'pollutant' means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water." It has also been interpreted to include water characteristics such as toxicity or acidity.

Pollutants of Concern – A list of potential pollutants to be analyzed for in the Monitoring and Reporting Program. This list shall include: TSS, total inorganic nitrogen, total phosphorus, soluble reactive phosphorus, acute toxicity, fecal coliform, total coliform, pH, and chemicals/potential Pollutants expected to be present on the project site. In developing this list, consideration should be given to the chemicals and potential Pollutants available for storm water to pick-up or transport to Receiving Waters, all Pollutants for which a waterbody within the Permit Area that has been listed as impaired under CWA Section 303(d)), the category of development and the type of Pollutants associated with that development category. It also refers to pollutants for which water bodies are listed as impaired under CWA section 303(d), pollutants associated with the land use type of a development, and/or pollutants commonly associated with urban runoff. Pollutants commonly associated with urban runoff include total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste, and anthropogenic litter).

Pollution – As defined in the Porter-Cologne Water Quality Control Act, pollution is "the alteration of the quality of the waters of the U.S. by waste, to a degree that unreasonably affects either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses." Pollution may include contamination.

Pollution Prevention – Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control, treatment, or disposal.

Post-Construction BMPs – A subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of development.

POTW [Publicly Owned Treatment Works] – Wastewater treatment facilities owned by a public agency.

Principal Permittee – San Bernardino County Flood Control District

Priority Development Projects - New development and redevelopment project categories listed in Section XI.D.4 of Order No. R8-2009-0036.

Rainy Season – October 1 through May 31st of each year.

Receiving Waters – Waters of the United States

Receiving Water Limitations – Waste discharge requirements issued by the SARWQCB typically include both: (1) "Effluent Limitations" (or "Discharge Limitations") that specify the technology-based or water-quality-based effluent limitations; and (2) "Receiving Water Limitations" that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the "Receiving Water Limitations" provision is the provision used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Redevelopment - The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots and existing roadways; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Sediment – Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

SIC [Standard Industrial Classification] – Four digit industry code, as defined by the US Department of Labor, Occupational Safety and Health Administration. The SIC Code is used to identify if a facility requires coverage under the General Industrial Activities Storm Water Permit.

Significant Environmental Impact – Significant environmental impact may be demonstrated directly thru actual evidence of harm (e.g. fish kills, illness outbreaks) or indirectly by analyzing samples of the receiving water. By definition, when pollutant concentrations exceed applicable water quality objectives defined in the Santa Ana River Watershed Basin Plan or other official state and federal regulations, then there is potential for significant adverse effect on the environment. Conversely, when pollutant concentrations meet applicable water quality objectives, then there is rarely any risk of significant environmental impact even when the chemical concentrations are elevated above natural background conditions.

Significant Non-compliance -- discharging any waste that causes or contributes to an exceedance of water quality objectives specified in the Santa Ana Regional Water Quality Control Plan or that poses an imminent and substantial threat to human health or the environment is deemed to constitute significant non-compliance with the federal Clean Water Act, the state Porter-Cologne Act, this permit and various local ordinances. Failure to obtain coverage under one or more of the Statewide General Permit(s) by filing an appropriate Notice

of Intent (NOI) is also deemed to be significant non-compliance with the aforementioned laws and regulations. Failure to correct deficiencies identified during formal stormwater inspections, after receiving proper notice and within the allotted compliance schedule, is also deemed to be significant non-compliance.

Significant Redevelopment –The addition or creation of 5,000, or more, square feet of impervious surface on an existing developed site. This includes, but is not limited to, construction of additional buildings and/or structures, extension of the existing footprint of a building, construction of impervious or compacted soil parking lots. Significant Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, the original purpose of the constructed facility or emergency actions required to protect public health and safety.

Significant Source of Pollutants -- A "significant source" is one that emits a sufficient quantity of pollutants, alone or in combination with other dischargers, that there is a reasonable potential to cause or contribute to an exceedance of water quality objectives in the storm water channel or the downstream receiving waters.

Site Design BMPs – Any project design feature that reduces the creation or severity of potential pollutant sources or reduces the alteration of the project site's natural flow regime. Redevelopment projects that are undertaken to remove pollutant sources (such as existing surface parking lots and other impervious surfaces) or to reduce the need for new roads and other impervious surfaces (as compared to conventional or low-density new development) by incorporating higher densities and/or mixed land uses into the project design, are also considered site design BMPs

Small Municipal Separate Storm Sewer System (Small MS4)[102] – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:

(i) Owned or operated by the United States, a State, city, town, boroughs, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as "large" or "medium" municipal separate storm sewer systems

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. (40 CFR §122.26(b)(16))

Source Control BMPs – In general, activities or programs to educate the public or provide low cost non-physical solutions, as well as facility design or practices aimed to limit the contact between Pollutant sources and storm water or authorized Non-Storm Water. Examples include: activity schedules, prohibitions of practices, street sweeping, facility maintenance,

[102] State Water Resources Control Board (SWRCB) Water Quality Order No. 2003-005-DWQ, Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (General Permit)

detection and elimination of IC/IDs, and other non-structural measures. Facility design (structural) examples include providing attached lids to trash containers, canopies for fueling islands, secondary containment, or roof or awning over material and trash storage areas to prevent direct contact between water and Pollutants.

Southern California Stormwater Monitoring Coalition (SMC) -

State Board – California State Water Resources Control Board

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage.

Storm Water General Permits – General Permit-Industrial (State Board Order No. 97-03 DWQ, NPDES No. CAS000001), General Permit-Construction (State Board Order No. 99-08 DWQ, NPDES No. CAS000002), and General Permit-Small Linear Underground Projects (State Board Order No. 2003-0007-DWQ, NPDES No. CAS000005).

Structural BMPs – Physical facilities or controls that may include secondary containment, treatment measures, (e.g. first flush diversion, detention/retention basins, and oil/grease separators), run-off controls (e.g., grass swales, infiltration trenches/basins, etc.), and engineering and design modification of existing structures.

SWAMP (Surface Water Ambient Monitoring Program) -

SWPPP [Storm Water Pollution Prevention Plan] – Plan to minimize and manage Pollutants to minimize Pollution from entering the MS4, identifying all potential sources of Pollution and describing planned practices to reduce Pollutants from discharging off the site.

TDS – Total dissolved solids.

Time of concentration - the time that it takes for storm runoff to travel from the most hydraulically remote point of the watershed to the outlet.

Total Maximum Daily Load (TMDL) – The TMDL is the maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under Clean Water Act Section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

TMDL Implementation Plan -- Component of a TMDL that describes actions, including monitoring, needed to reduce Pollutant loadings and a timeline for implementation. TMDL Implmentation Plans can include a monitoring or modeling plan and milestones for measuring progress, plans for revising the TMDL if progress toward cleaning up the waters is not made, and the date by which Water Quality Standards will be met (USEPA Final TMDL Rule: Fulfilling the Goals of the CWA, EPA 841-F-00-008, July 2000).

Toxicity – Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Treatment Control BMPs – Any engineered system designed and constructed to remove pollutants from urban runoff. Pollutant removal is achieved by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

TSS – Total suspended solids.

First Draft: June 26, 2009

Deleted: "Storm water" is defined as urban runoff and snowmelt runoff consisting only of those discharges which originate from precipitation events. Storm water is that portion of precipitation that flows across a surface to the storm drain system or receiving waters. Examples of this phenomenon include: the water that flows off a building's roof when it rains (runoff from an impervious surface); the water that flows into streams when snow on the ground begins to melt (runoff from a semi-pervious surface); and the water that flows from a vegetated surface when rainfall is in excess of the rate at which it can infiltrate into the underlying soil (runoff from a pervious surface). When all factors are equal, runoff increases as the perviousness of a surface decreases. During precipitation events in urban areas, rain water picks up and transports pollutants through storm water conveyance systems, and ultimately to waters of the United States.

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Deleted: The water quality objectives for toxicity provided in the Water Quality Control Plan, Santa Ana River Basin, Region 8, (Basin Plan), state in part…"All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life….The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge".

Urban Runoff – Urban runoff is defined as all flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) authorized non-storm water discharges (See Section V of the Order) (dry weather flows).

USEPA – United States Environmental Protection Agency

Waste – As defined in California Water Code Section 13050(d), "waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal."

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system which applies to solid and semi-solid waste which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, nonhazardous solid waste, and inert waste.

Waste Discharge Requirements – As defined in Section 13374 of the California Water Code, the term "Waste Discharge Requirements" is the equivalent of the term "permits" as used in the Federal Water Pollution Control Act, as amended. The Regional Board usually reserves reference to the term "permit" to Waste Discharge Requirements for discharges to surface Waters of the U.S.

Waste Load Allocations (WLA) – Maximum quantity pollutants a discharger of waste is allowed to release into a particular waterway, as set by a regulatory authority. Discharge limits usually are required for each specific water quality criterion being, or expected to be, violated. Distribution or assignment of TMDL Pollutant loads to entities or sources for existing and future point sources.

Water Quality Assessment – Assessment conducted to evaluate the condition of non-storm water and storm water discharges, and the water bodies which receive these discharges.

Water Quality Objective – limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area. [California Water Code Section 13050 (h)]

Water Quality Standards – are defined as the beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) of water and the water quality objectives necessary to protect those uses.

Waters of the United States – Waters of the United States can be broadly defined as navigable surface waters and all tributary surface waters to navigable surface waters. Groundwater is not considered to be a Waters of the United States.

As defined in 40 CFR 122.2, the Waters of the U.S. are defined as: (a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide**;** (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of

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Deleted: California's water quality objectives are established by the State/Regional Water Boards in the Water Quality Control Plans. ¶
As stated in the Porter-Cologne Requirements for discharge (CWC 13263): "(Waste discharge) requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241."

Deleted: Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne's definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the Clean Water Act.) ¶

which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition**: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;** (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Watershed – That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

WDID [Waste Discharge Identification] – Identification number provided by the State when a Notice of Intent is filed.

WQMP – Water Quality Management Plan. A plan developed to mitigate the impacts of urban runoff from Priority Development Projects.

Wet Season – October 1 through April 15 of each year, except where specifically defined otherwise in an approved TMDL Implementation Plan.

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Attachment 5: MONITORING AND REPORTING PROGRAM NO. R8-2008-0036
NPDES NO. CAS618036
FOR
THE SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT, THE COUNTY OF SAN BERNARDINO, AND THE INCORPORATED CITIES OF SAN BERNARDINO COUNTY WITHIN THE SANTA ANA REGION

AREA-WIDE URBAN AND STORM WATER RUNOFF

First Draft: June 26, 2009

Attachment 6: Fact Sheet

Attachment 7: Notices of Intent and Termination

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Discharges from facilities that extract, treat and discharge water diverted from waters of the U.S.: These discharges shall meet the following conditions: (1) The discharges to waters of the U.S. must not contain pollutants added by the treatment processes or pollutants in greater concentration than the influent; (2) The discharge must not cause or contribute to a condition of erosion; (3) The extraction and treatment must be in compliance with Section 404 of the Clean Water Act; and (4) Conduct monitoring in accordance with Monitoring and Reporting Program attached to this Order.

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Dry Weather Conditions (April 1 through October 31): Compliance shall be achieved as soon as possible, but no later than December 31, 2015[1].

Fecal Coliform WLA[2]

5–sample/30–day logarithmic mean less than 180 organisms/100mL, and not more than 10% of the samples exceed 360 organisms/100mL for any 30–day period.

E. Coli WLA

5–sample/30–day logarithmic mean less than 113 organisms/100mL, and not more than 10% of the samples exceed 212 organisms/100mL for any 30–day period.

Wet Weather Conditions (November 1 through March 31): Compliance shall be achieved as soon as possible, but no later than December 31, 2025[3].

Fecal Coliform WLA[4]

5–sample/30–day Logarithmic Mean less than 180 organisms/ 100mL, and not more than 10% of the samples exceed 360 organisms/100mL for any 30–day period.

E. Coli WLA

[1] Since the TMDL compliance date is outside the term of this permit, monitoring and reporting pollution reduction at waste load allocation monitoring locations in conjunction with the iterative BMP approach is appropriate to demonstrate adequate program effectiveness and progress towards compliance with the TMDL/WLA by the compliance date.

[2] The fecal coliform WLA becomes ineffective upon the replacement of the REC1 fecal coliform objectives in the Basin Plan by approved REC1 objectives based on E. Coli.

[3] Since the final TMDL compliance date is outside the term of this permit, monitoring and reporting pollution reduction at waste load allocation monitoring locations in conjunction with the iterative BMP approach is appropriate to demonstrate adequate program effectiveness and progress towards compliance with the TMDL/WLA by the compliance date.

[4] The fecal coliform WLA becomes ineffective upon the replacement of the REC1 fecal coliform objectives in the Basin Plan by approved REC1 objectives based on E. Coli.

5–sample/30–day logarithmic mean less than 113 organisms/ 100mL, and not more than 10% of the samples exceed 212 organisms/100mL for any 30–day period.

MSAR TMDL Urban Source Evaluation Program and Waste Load Allocation Monitoring and Reporting

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On June 14, 2007, the TMDL taskforce members submitted a source evaluation and a monitoring plan. The Regional Board approved these plans on June 29, 2007, Resolution No. R8-2007-0046. A revised monitoring plan and an urban bacterial indicator source evaluation plan were approved by the Regional Board on April 18, 2008, Resolution No. R8-2008-0044. The MS4 Permittees within the MSAR watershed shall continue to conduct monitoring and source evaluations in accordance with the approved plans and report the findings in accordance with the schedules specified in the approved plans.

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By February 15, 2010, the Permittees shall revise the MSWMP to incorporate a plan and a schedule to achieve necessary triennial bacterial source reduction for meeting the bacterial indicator WLAs based on the schedule established in the TMDLs. The plan shall at a minimum be based on actual or literature documentation of estimated effectiveness of BMPs to address identified or potential urban bacterial sources in the watershed. The plan shall include workplans or actions proposed by each Permittee within the MSAR[5] to be implemented within its jurisdiction to attain necessary pollution reductions.

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The MS4 Permittees within the MSAR watershed shall track and annually report their progress towards compliance (pre-compliance evaluation monitoring) with the WLAs at the locations specified in the MSAR Bacterial Indicator TMDL or other appropriate urban source monitoring locations.

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If triennial bacterial source reduction goals at the specified monitoring locations are not met, the Permittees within the affected drainage areas shall comply with the following procedure:

[5] The TMDL Taskforce may propose a consolidated workplan to address the problem, in lieu of individual workplans and actions.

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Each Permittee (or the TMDL taskforce) upstream of the urban source monitoring points shall evaluate and characterize discharges from its significant (36 inches or larger in diameter) outfall locations.

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Each Permittee (or the TMDL taskforce) shall submit a report to the Executive Officer with proposed actions that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the failure to attain bacterial source reduction goals.

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The report may be incorporated in the annual report unless the Executive Officer directs a different submittal date. In the annual report due beginning November 15, 2010 and every triennial review year thereafter, the Permittees in the MSAR watershed shall report any revisions to the MSWMP, LIP or WQMP in response to TMDL requirements. Future workplans or actions to reduce bacterial sources shall consider the impact of projected population growth in the watershed and within each jurisdiction. Effectiveness evaluations shall be based on actual population change.

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Permittees shall continue to participate in the watershed-wide monitoring program until the TMDL numeric targets identified in Section D.1, above are achieved[6].

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the County of San Bernardino and San Bernardino County Flood Control District shall meet the following urban WLA for phosphorus during dry hydrological conditions[7] as soon as possible, but no later than December 31, 2015.

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[6] See Monitoring And Reporting Program Section.

[7] The City of Big Bear and the County of San Bernardino are required to comply with the phosphorus TMDL by complying with the WLA for Dry Hydrological Conditions as soon as possible, but no later than December 31, 2015. However, since the TMDL for Dry Hydrological Conditions does not specify nutrient reductions from external watershed sources, including urban discharges (WLA), resorts and open space/forested lands (LAs), these external load dischargers are still responsible for reducing their contributions to the internal nutrient loads, which are lake sediment and macrophytes..

Total Phosphorus (lbs/yr)[8] = 475

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TMDL for Dry Hydrological Conditions does not require nutrient reductions from external watershed sources, hence, the City of Big Bear and the County of San Bernardino are required to implement BMPs in the watershed so as not to exceed the urban WLA.for phosphorus.

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If watershed monitoring shows exceedances of the phosphorus WLA, despite implementation of the lake management plan and the MSWMP and other requirements of this Order, the Permittees within the affected drainage areas shall comply with the following procedure:

Each Permittee[9] upstream of the WLA monitoring points shall evaluate and characterize discharges from its significant outfall locations.

The Permittees[10] shall submit a report with proposed actions to the Executive Officer that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of the WLA.

The report may be incorporated into the storm water annual report.

The City of Big Bear Lake, County of San Bernardino and San Bernardino Flood Control District shall participate in the stakeholder effort to achieve the following Big Bear Lake Nutrient TMDL numeric targets:

Table 5. Big Bear Lake Nutrient TMDL Numeric Targets

Indicator	Target Value[a]
Total P concentration	Annual average[b] no greater than 35 µg/L; to be attained no later than 2015 (dry hydrological conditions), 2020 (all other times)[c]

[8] Specified as an annual average for dry hydrological conditions.
[9] This task may be completed by the Big Bear Lake Nutrient TMDL TaskforceBig Bear TMDL Task Force.
[10] This task may be completed by the Big Bear Lake Nutrient TMDL TaskforceBig Bear TMDL Task Force.

Macrophyte Coverage	30-40% on a total lake area basis; To be attained by 2015 (dry hydrological conditions), 2020 (all other times)[c,d]
Percentage of Nuisance Aquatic Vascular Plant Species	95% eradication on a total area basis of Eurasian Watermilfoil and any other invasive aquatic plant species; to be attained no later than 2015 (dry hydrological conditions), 2020 (all other times) [c,d]
Chlorophyll a concentration	Growing season[e] average no greater than 14 µg/L; to be attained no later than 2015 (dry hydrological conditions), 2020 (all other times)[c]

a Compliance with the in-lake targets to be achieved as soon as possible, but no later than the dates specified

b Annual average determined by the following methodology: the nutrient data from both the photic composite and discrete bottom samples are averaged by station number and month; a calendar year average is obtained for each sampling location by averaging the average of each month; and finally, the separate annual averages for each location are averaged to determine the lake-wide average. The in-lake open-water sampling locations used to determine the annual average are MWDL1, MWDL2, MWDL6, and MWDL9 (see 1.B.4. Implementation Task 4.2, Table 5-9a-i).

c Compliance date for wet and/or average hydrological conditions may change in response to approved TMDLs for wet/average hydrological conditions.

d Calculated as a 5-yr running average based on measurements taken at peak macrophyte growth as determined in the Aquatic Plant Management Plan (see 1.B.4. Implementation, Task 6C)

e Growing season is the period from May 1 through October 31 of each year. The open-water sampling locations used to determine the growing season average are MWDL1, MWDL2, MWDL6, MWDL9 (see 1.B.4. Implementation Task 4.2, Table 5-9a-i). The chlorophyll a data from the photic samples are average by station number and month; a growing season average is obtained for each sampling location by averaging the average of each month; and finally, the separate growing season averages for each location are averaged to determine the lake-wide average.

i. **Storm Water Program Modification**: The City of Big Bear Lake, County of San Bernardino, and San Bernardino Flood Control District shall revise their LIP, as needed, to incorporate the findings from TMDL implementation activities. These revisions shall include: (1) the results of the nutrient monitoring programs; (2) an evaluation of the effectiveness of the control measures in meeting the phosphorus WLAs; (3) any additional control measures proposed to be implemented if the WLA or numeric targets are exceeded, including control measures for controlling nutrient inputs from new developments and/or new sources; and (4) a progress report evaluating progress towards meeting the WLAs (pre-compliance evaluation monitoring[11]).

[11] Pre-compliance evaluation monitoring is monitoring conducted prior to the compliance date to evaluate effectiveness of pollution reduction efforts.

j. Table 5 lists the Big Bear Lake Nutrient TMDL Implementation Plan/Schedule Report Due dates and tasks. The City of Big Bear and the County of San Bernardino shall participate and comply with the TMDL Implementation Plan and the schedules.

Table 6. Big Bear Lake Nutrient TMDL Implementation Plan/Schedule Report Due Dates

Task / TMDL Phase 1	Description	Compliance Date-As soon As Possible but No Later Than
Task 4	Nutrient Water Quality Monitoring Program 4.1 Watershed-wide Nutrient Monitoring Plan(s) 4.2 Big Bear Lake Nutrient Monitoring Plan(s) [12]	Plan/schedule due November 30, 2007 Annual reports due February 15
Task 6[3]	Big Bear Lake – Lake Management Plan, including: 6A. Big Bear Lake and Watershed Model Updates 6B. Big Bear Lake In-Lake Sediment Nutrient Reduction Plan 6C. Big Bear Lake Aquatic Plant Management Plan	Plan/schedule due August 31,2008[13] Annual reports due February 15

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Implement as many LID principles as possible at the project site close to the point of storm water generation and infiltrate and/or harvest and re-use at least the design capture volume through designated infiltration/treatment areas elsewhere within the project site. For example, at a condominium development: connect the roof drains to landscaped areas, construct common parking areas with pervious asphalt with a sub-base of rocks or other materials to facilitate percolation of storm water, direct road runoff to curbless, vegetated sidewalks. The pervious areas which receive runoff from impervious areas should have the capacity to infiltrate, harvest and re-use, evapotranspire and/or bio-treat at least the design capture volume.

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Implement LID on a sub-regional basis. For example, at a 100 unit high density housing unit with a small strip mall and a school: connect all roof drains to vegetated areas (if there are any vegetated areas, otherwise storm water storage and reuse may be considered or else divert to the local storm water conveyance system, to be conveyed to the local treatment system), construct a storm water infiltration gallery below the school playground to infiltrate and/or harvest and re-use

[12] Tasks 4.1 and 4.2 have been completed.
[13] A Lake Management Plan has been submitted and is currently being refined.

the design capture volume. The pervious areas to which the runoff from the impervious areas are connected should have the capacity to infiltrate, harvest and re-use, evapotranspire and/or bio-treat at least the design capture volume.

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Implement LID on a regional basis. For example, several developments could propose a regional system to address storm water runoff from all the participating developments. The pervious areas to which the runoff from the impervious areas are connected should have the capacity to infiltrate, harvest and re-use, evapotranspire and/or bio-treat at least the design capture volume from the entire tributary area. (Also see discussion on hydrologic conditions of concern, below.

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The feasibility analysis shall include a groundwater protection assessment to determine if structural infiltration BMPs are appropriate for the site.

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Limitations on the volume of each waste discharge, and the quantity and concentrations of pollutants in the discharge. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses.

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Effluent limitations are limitations of the quantity and concentrations of pollutants in a discharge. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses. In other words, an effluent limit is the maximum concentration of a pollutant that a discharge can contain. To meet effluent limitations, the effluent typically must undergo one or more forms of treatment to remove pollutants in order to lower the pollutant concentration below the limit. Effluent limits are typically numeric (e.g., 10 mg/l), but can also be narrative (e.g., no toxics in toxic amounts).

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When land is diminished or wane away due to the effects of wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

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“management approaches and technologies that utilize, enhance and/or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and

reuse."[14] (USEPA 2008). Green infrastructure approaches currently in use include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, porous and permeable pavements, vegetated median strips, reforestation/revegetation, and protection and enhancement of riparian buffers and floodplains. Green infrastructure is used interchangeably with low impact development (LID). See LID.

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storm water management and land development strategy that combines a hydrologically functional site design with pollution prevention measures to compensate for land development impacts on hydrology and water quality. The approach emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions. Low Impact Development methods mimic the predevelopment site hydrology by using site design techniques that store, infiltrate, evaporate, and detain runoff. Low impact development and green infrastructure are used interchangeably. LID is an innovative storm water management approach with a basic principle that is modeled after nature: manage rainfall at the source using site design techniques that store, infiltrate, bio-treat, evaporate and detain runoff. LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, bio-treat, store, evaporate and detain runoff close to its source. A goal of LID is to use site and subdivision design techniques in coordination with storm water management engineering to mimic the hydrologic conditions associated with an undeveloped site.

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LID principles are based on controlling stormwater at the source by the use of microscale controls that are distributed throughout the site. This is unlike conventional approaches that typically convey and manage runoff in large facilities located at the base of drainage areas. These multifunctional site designs incorporate alternative storm water management practices such as functional landscape that act as storm water facilities, flatter grades, depression storage and open drainage swales. This system of controls can reduce or eliminate the need for a centralized best management practice (BMP) facility for the control of storm water runoff. Although traditional storm water control measures have been documented to effectively remove pollutants, the natural hydrology is still negatively affected (inadequate base flow, thermal fluxes or flashy hydrology), which can have detrimental effects on ecosystems, even when water quality is not compromised (Coffman, 2000). LID practices offer an additional benefit in that they can be integrated into the infrastructure and are more cost effective and aesthetically pleasing than traditional, structural storm water conveyance systems.

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[14] United States Environmental Protection Agency, et. al. 2008. Managing Wet Weather with Green Infrastructure – Action Strategy 2008.

MEP is an acronym for "Maximum Extent Practicable" and refers to the standard for implementation of storm water management programs. Section 402(p)(3)(B)(iii) of the Clean Water Act requires that municipal storm water permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." In practice, compliance with the MEP standard is evaluated by how well the Permittee implements the "minimum measures" identified by EPA, including: (1) Public education and outreach on storm water impacts; (2) Public involvement/participation; (3) Illicit discharge detection and elimination; (4) Construction site storm water runoff control; (5) Post-construction storm water management in new development and redevelopment; and (6) Pollution prevention/good housekeeping for municipal operations. Collectively, these minimum measures are often referred to as "Best Management Practices" or BMPs. The MEP standard does not require Permittees to reduce pollutant concentrations below natural background levels, nor does it necessarily require further reductions where pollutant concentrations in the receiving water already meet water quality objectives. In implementing the MEP standard, it is appropriate for Permittees to prioritize their resource allocation to address the storm water pollution problems that pose the greatest and most immediate threat to human health or the environment. MEP [MEM1]is a technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their urban runoff management programs. Their total collective and individual activities conducted pursuant to the urban runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

"*To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose or the BMPs would not be technically*

feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
Public Acceptance: Does the BMP have public support?
Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented."

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, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States

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Historic and current developments make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and a receiving water.